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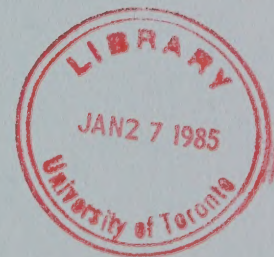


NATIONAL ENERGY BOARD REASONS FOR DECISION

Review

Of that Portion of Order No. XO-1-83,
Issued to Interprovincial Pipe Line Limited,
Relating to the Location of
Truck and Rail Loading Facilities in
Flamborough, Ontario

Hearing Order:
MH-1-83, as amended



December 1985

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Executive Summary

Note: This summary is provided solely for the convenience of the reader and does not constitute part of these decisions or the reasons for them.

The Application

On 27 May 1982, Interprovincial Pipe Line Limited applied to the National Energy Board for certain exemptions pursuant to section 49 in connection with modifications to part of its system to ship propane. Interprovincial proposed to change its Line No. 8, extending from Sarnia to the Town of Flamborough, from oil to propane service. In the Town, it proposed to construct a rail and truck transshipment facility to extend propane distribution to the Golden Horseshoe. That proposal was amended in October 1985 to provide separate rail and truck transshipment facilities for rail and truck in the light of cost savings and the impacts associated with truck traffic.

On 4 May 1983 the Board approved the applied-for exemptions by Order No. XO-1-83. Subsequent to that approval, the Board, pursuant to subsections 17(1) and 20(3) of the Act undertook to review that portion of the order concerning the location of the transshipment facilities in the Town of Flamborough. That review resulted from local public agencies and residents expressing concerns regarding the facilities development. The hearing, pursuant to Board Order No. MH-1-83, as amended, took place in Burlington, Oakville and Ottawa, Ontario between April and August of 1985.

The Board's Findings

In its Decision the Board found that, subject to the terms and conditions detailed in its Order AO-2-XO-1-83, the Board's previous decision to exempt Interprovincial from the requirements of certain provisions of the Act should be affirmed. In doing so the Board concluded that, on the balance of all the evidence before it, it was satisfied that Interprovincial had demonstrated that the subject locations were suitable for the proposed propane transfer stations.

The Board decided that while Interprovincial's site selection process was *ad hoc* and not a model for others to follow it did, in the final analysis, indicate that a series of reasonable business decisions had been taken by Interprovincial. On the subject of land-use, the Board concluded that the proposed use was acceptable for these properties and the Board was not prepared to reject the project on this basis. The Board is of the view that its approval of these facilities does not in any way jeopardize the integrity of the Town's or Region's planning documents.

The Board found that the environmental concerns expressed by Intervenor could be addressed by active measures to be taken by Interprovincial before, during and after construction and has conditioned the order accordingly.

With respect to road traffic matters the Board noted that this area is under the jurisdiction of the Ontario Ministry of Transportation and Communications. However, in view of the evidence presented at the hearing, the Board is concerned with the existing access approval given by MTC for the truck site. The Board recommends that the Ministry re-examine the need for signalization, advance lighting and illumination.

On the question of public safety, the Board found that the proposed sites could be designed, constructed, operated and maintained in a safe manner. The Board noted that prior to construction it will review and approve the final design of the facilities and prior to leave-to-open being granted it will approve their operation and maintenance procedures.

(ii)

Recital and Appearances

IN THE MATTER OF the National Energy Board Act ("the Act") and the Regulations made thereunder

AND IN THE MATTER OF Order No. XO-1-83, as amended, issued to Interprovincial Pipe Line Limited, pursuant to section 49 of the Act;

AND IN THE MATTER OF a public hearing, pursuant to subsections 17(1) and 20(3) of the Act, to review that portion of Order No. XO-1-83 approving the location of the truck and rail loading facilities. Board File Number: 1755-J1-43;

HEARD in Burlington, Ontario on: 23, 24, 25, 26 and 30 April 1985; and on 1, 2, 3, 6, 7, 8, 9 and 10 May 1985;

AND in Oakville, Ontario on: 21, 22 and 23 May 1985;

AND in Ottawa, Ontario on: 10, 11, 12, 13, 14, 24, 25, 26, 27 and 28 June 1985; and on 2, 3, 4 and 5 July 1985; and on 26, 27, 28 and 29 August 1985.

BEFORE:

A.D. Hunt	Presiding Member
J.R. Hardie	Member
J.L. Trudel	Member

APPEARANCES:

J.W. Brown, Q.C.	Interprovincial Pipe Line Limited
R.P. Smith	
L.G. Dorion	Propane Gas Association of Canada Inc.
D. Trinaistich	Flamborough Residents Against Propane Inc.
C. Mylrea	
T. Carter	Concerned Residents Opposing Propane Transfer Station
D. Timms	
W.G. Charlton	
D. Hitchcock	on his own behalf
A. Sloat	on her own behalf
D. Estrin	The Corporation of the Town of Flamborough, and
H. Dahme	The Regional Municipality of Hamilton-Wentworth
J. Olah	Halton Region Conservation Authority
M.B. Harper	Wentworth County Board of Education
M.M. Greenleaf	
J.M. Johnson, Q.C.	Province of Ontario
D.S. Starkman	
N.J. Schultz	National Energy Board
L. Keough	

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Abbreviations

Names

CPR	Canadian Pacific Railway
the Carlisle Swamp	Carlisle Swamp Environmentally Sensitive Area
CROP	Concerned Residents Opposing Propane Transfer Stations
Ecoplans	Ecoplans Ltd.
FRAP	Flamborough Residents Against Propane Inc.
MCCR	Fuel Safety Branch of the Ontario Ministry of Consumer and Commercial Relations
HRCA	Halton Region Conservation Authority
the Haysland Forest	Haysland Forest and Wildlife Environmentally Sensitive Area
Interprovincial or the Applicant	Interprovincial Pipe Line Limited
the Board	National Energy Board
the Act	National Energy Board Act
the escarpment	Niagara Escarpment
MAH	Ontario Ministry of Municipal Affairs and Housing
MTC	Ontario Ministry of Transportation and Communications
OMB	Ontario Municipal Board
PGAC	Propane Gas Association of Canada Inc.
Ontario or the Province	Province of Ontario
CTC	Railway Transport Committee of the Canadian Transport Commission
the Region	Regional Municipality of Hamilton-Wentworth
the Town	Town of Flamborough*
the Township	Township of Flamborough*
the Town/Region	Town of Flamborough/Regional Municipality of Hamilton/Wentworth**

Units of Measurements

km	kilometre
mm	millimetre
m	metre

* As of 1 January 1985 the official status of the Township of Flamborough changed to the Town of Flamborough.

** During the hearing which commenced on 23 April 1985 both the Town and Region were represented by D. Estrin/H. Dahme

Units of Measurements

ha

hectare

Technical Abbreviations

BLEVE

Boiling Liquid Expanding Vapour Explosion

LPG

Liquid Propane Gas

NGL

Natural Gas Liquids

Part VI

Part VI of the Schedule to the Board's Rules of Practice and Procedure

Chapter 1

Background

1.1 Initial Application

By an application dated 27 May 1982, Interprovincial Pipe Line Limited (Interprovincial) applied to the National Energy Board (the Board) pursuant to section 49 of the National Energy Board Act (the Act) for exemption from the requirements to comply with paragraph (a) of subsection (1) and subsection (2) of section 26, and sections 27, 28 and 29 of the Act in connection with modifications to its Line No. 8 and construction of loading facilities for the transport of propane. That part of Interprovincial's Line No. 8, subject to the application, runs a distance of approximately 210 kilometres (km) from Sarnia, Ontario to the vicinity of Westover, Ontario.

The modifications applied for involved a proposal to dedicate Line No. 8 exclusively to propane service. Natural Gas Liquids (NGL's) delivered from Alberta would be fractionated at the Dome/Amoco fractionation facilities in Sarnia, Ontario. Propane from the fractionation facility would then be injected into Line No. 8 for delivery to a truck and rail loading facility to be constructed by Interprovincial, approximately 14 km east of Westover near Millgrove Junction within the Township of Flamorough. From a single facility at Millgrove Junction the product would be transported by rail tank-cars and tank-trucks to market.

Line No. 8, a 508 millimetre (mm) pipeline, currently transports crude oil from Sarnia to Bronte, Ontario, a distance of approximately 225 km. A 273.1 mm lateral from the Bronte Junction moves crude oil to the Petrocan refinery. In addition, at Interprovincial's Westover Station which is located approximately 31 km west of the Bronte Junction, crude oil is taken from Line No. 8 and moved in other pipelines to markets in Buffalo, New York and to Nanticoke, Ontario. Those oil volumes displaced by the propane shipment in Line No. 8 would be assigned to Interprovincial's Lines No. 7 and No. 9. Those lines parallel Line No. 8 from Sarnia to Westover at which point they interconnect. Line No. 7 would continue for oil shipments to Bronte and Buffalo and Line No. 9 would be assigned the Nanticoke volumes.

By amendment dated 20 October 1982, to its application Interprovincial requested that the facility be split into two sites, one for truck transport and one for rail transport. Both sites remained in the general area of the originally proposed site. The truck facility was to be located on Highway 6, 5 km from the original site and the rail facility was to be located immediately north of the original site.

By Order No. XO-1-83 (Appendix I) dated 4 May 1983 the Board approved the exemption from compliance with certain provisions of the Act by Interprovincial. As a result, Interprovincial was in a position to proceed with the proposed modifications to the pipeline and with the construction of the truck and rail loading facilities subject only to meeting certain conditions set out in the order and seeking leave-to-open under section 38 of the Act. Subsequent to that order, Order No. AO-1-XO-1-83 (Appendix II) dated 30 April 1984 was issued, extending the date for the completion of the project to a date to be fixed by the Board at the conclusion of the public hearing to be held pursuant to Order No. MH-1-83.

Of relevance to this inquiry are the conditions set out in Order No. XO-1-83. The Board notes that Order No. XO-1-83 does not exempt Interprovincial from compliance with section 26(1)(b) of the Act. Therefore, the usual procedures respecting leave-to-open would be followed, thereby providing assurance to the Board that the facilities have been constructed in accordance with the plans and specifications as submitted and accepted by the Board, and can be operated effectively and safely.

1.2 Public Hearing

In response to the concerns of local authorities and landowners in the Township of Flamorough, with respect to the location of the truck and rail loading facilities in their area, the Board, by Order No. MH-1-83 (Appendix III) dated 7 July 1983, pursuant to subsections 17(1) and 20(3) of the Act, directed that a public hearing be held "... to receive the submissions of Interprovincial and interested parties on the matter of the location of the truck and rail loading facilities ..." The

Board further directed that "... the hearing will be limited to the matter of the location of the truck and rail loading facilities ..."

Order No. MH-1-83 required Interprovincial to provide "... an overview of the project approved by Order No. XO-1-83 and ... details on the proposed location of the truck and rail loading facilities, including details on alternative sites considered, and the criteria utilized in determining the proposed location in preference to alternative locations ..."

Interested parties were directed to "... present their submissions on Interprovincial's proposed location of the loading facilities, potential alternative sites, and the criteria which should be utilized in determining the preferred location for the loading facilities ..."

The public hearing commenced in Burlington, Ontario on 16 August 1983, and on 19 August 1983 the proceedings were adjourned until 28 September 1983.

At the hearing, the Township of Flamborough (the Township) asserted that the jurisdiction of the Board did not extend to the project. The Township submitted that Line No. 8 was not a pipeline extending beyond the limits of a province since the propane was injected into the line at Sarnia, Ontario and was to be removed from the line within Ontario. In addition, the Township objected to the use of section 49 of the Act as a means of proceeding with the modifications proposed.

In a decision given on 17 August 1983 the Board ruled that it had jurisdiction in that "... having regard to the way in which liquid hydrocarbons are transported by pipeline, the transportation of liquid propane is direct and continuous from its point of origin in Alberta, through to the separation facility and processing near Sarnia and beyond that through the length of Interprovincial's Line No. 8.". The Board also ruled that, with respect to the modifications proposed, Interprovincial could be exempted from compliance with certain sections of the Act in accordance with section 49 since the valves, loading facilities and the pipeline involved were all within the description of the facilities set out in that section.

During that hearing, Mr. Eric Cunningham, M.P.P. for Wentworth North, alleged that there existed a reasonable apprehension of bias with respect to one of the Board Members sitting at the public hearing. That member had had, several years previously, a business relationship with one of Interprovincial's witnesses while both were associated with another company not subject to Board regulation. At the time of that association, neither the Board Member nor the Interprovincial witness had been involved with the Interprovincial proposal with respect to Line No. 8. Adopting the reasoning in the Supreme Court of Canada decision in

the Marshall Crowe case (*Committee of Justice and Liberty v. National Energy Board* (1978) 1 S.C.R. 369), the Board, on 8 September 1983, ruled that there was no reasonable apprehension of bias.

On 28 September 1983, the hearing resumed in Burlington, but once again was adjourned, to a date to be announced later. That second adjournment followed an action launched by the Township which sought 'Leave-to-Appeal' to the Federal Court of Appeal on both the ground of the Board's legal jurisdiction over two aspects of the matter under review and on the ground of an alleged apprehension of bias on the part of one Member of the Board participating in the hearing.

1.3 Federal Court Appeal

Subsequent to leave granted 3 October 1983 by the Federal Court of Appeal, the Township, pursuant to subsection 18(1) of the Act, appealed the Board's decisions of 17 August 1983 and 8 September 1983. The appeal was heard in Toronto on June 11 and 12, 1984.

The issues on appeal were as follows:

1. does the Board have the constitutional jurisdiction to authorize modifications to a pipeline for the transmission of propane from Sarnia to Millgrove, Ontario;
2. does the Board have jurisdiction to authorize these modifications under section 49 of the Act (which permits exemptions from the hearing process for, *inter alia*, loading facilities and pipelines less than 40 km in length) since the Sarnia to Millgrove, Ontario conversion involves in excess of 210 km of pipeline; and
3. does a reasonable apprehension of bias arise due to Board Member William Stewart's past business relationship at Union Gas Limited with Mr. Robert Glen Caughey, who is currently Vice President in charge of Projects for Interprovincial and who acted as Interprovincial's chief policy witness at the hearing relating to this project.

The three Justices of the Federal Court of Appeal issued rulings on Tuesday, 12 June 1984 on items 2 and 3 above and on Friday, 15 June 1984 on item 1 above. All three grounds of appeal were dismissed.

1.4 Supreme Court Appeal

Following the dismissal by the Federal Court of Appeal in June 1984, the Township sought 'Leave-to-Appeal' to the Supreme Court of Canada. The Board held a one-day public hearing in Ottawa on Monday, 13 August 1984, at which time all interested

parties were given the opportunity to present their views on the request by the Township to adjourn the proceedings before the Board, until such time as a ruling of the Supreme Court on the 'Leave-to-Appeal' application had been heard. In handing down the Board's decision that day, the presiding member stated:

"...considering the special circumstances of this case, and taking into consideration the fact that the jurisdiction of this Board to consider this matter is being questioned, it is the opinion of the Panel that the matter before the Board should not proceed as scheduled."

The Supreme Court of Canada Hearing took place on Monday, 17 December 1984, at which time the 'Leave-to-Appeal' was denied.

1.5 Resumption of Board Hearing

Prior to the resumption of the hearing, the Board directed that a new panel of the Board be constituted for the purpose of conducting a new public hearing. By Board Order No. AO-1-MH-1-83 (Appendix IV)

dated 24 January 1985, the Board announced that it would commence that new public hearing in Burlington, Ontario, on Tuesday, 26 March 1985. Subsequent to that amending order, the Board issued Order No. AO-2-MH-1-83 (Appendix V) dated 18 February 1985 which changed the date of the commencement of the hearing to Tuesday, 23 April 1985. One further amending order was issued, AO-3-MH-1-83 (Appendix VI) dated Tuesday, 26 March 1985. That amendment dealt with a procedural matter.

Thirty-four sitting days were required to hear the evidentiary and argument phases of the hearing. The hearing took place during three separate periods.

In general the evidentiary portion of the hearing took place between: 23 April 1985 and 10 May 1985 (13 hearing days) in Burlington, Ontario; 21 May 1985 and 23 May 1985 (3 hearing days) in Oakville, Ontario; and 10 June 1985 and 5 July 1985 (14 hearing days) in Ottawa, Ontario. Although, to accommodate Intervenor, some final argument was heard during the evidentiary portion of the hearing, the major portion of argument took place in Ottawa between 26 August 1985 and 29 August 1985 (4 hearing days).

Chapter 2

Site Selection Criteria and Selection Process

2.1 Site Selection Criteria

A close examination of the evidence put forward by Interprovincial reveals a number of criteria were used by Interprovincial in the site selection process. They are as follows (the ordering is for convenience only and does not imply any ranking of criteria):

1. Proximity to Line No. 8.
2. Proximity to market which, in light of the fact that approximately 65 percent of the propane was destined for the Toronto market and points east of Toronto, meant proximity to Toronto.
3. Proximity, in the case of the rail loading facilities, to a rail line suitable for spur line development and within the Toronto rate schedule area.
4. Access, in the case of the truck loading facilities, to the provincial highway network.
5. Maximum use of existing facilities.
6. Cost of new facilities.
7. Land available for purchase as an existing lot of record without the need for expropriation.
8. Land zoned industrial or suitable for rezoning.
9. Minimum disruption of agricultural land.
10. A Zone 1 location*
11. Public safety.
12. Site-specific considerations such as set-backs, road alignments, distance to neighbouring uses, etc.

These criteria evolved over a considerable period of time from the inception of the project up to and including the hearing. There is some evidence to suggest that the criteria were developed in response to the need to take business decisions at various stages in the development of the project and that the criteria were explicitly stated to explain why certain decisions

had been taken. Intervenors were critical of the apparent *ad hoc* approach adopted by Interprovincial to the development of criteria appropriate for use in the site selection process. They were also critical of the failure to assign weighting factors to the criteria so that the criteria could be applied in a consistent fashion at the outset of the site selection process.

Several Intervenors submitted that the criteria should have included a cost-benefit study of prospective sites. Some also took the position that the public-safety criterion should have included, as an integral part, a formal risk analysis in relation to prospective sites. In addition, some Intervenors submitted that Interprovincial should have conducted an environmental impact assessment in the form and manner usually submitted to the Board.

Views of the Board

The issue to be decided at this juncture is whether the criteria employed by Interprovincial are relevant to and appropriate for use in the site selection process. The Board regrets that Interprovincial did not develop its criteria in a more rigorous manner at the outset of its process of site selection. Indeed Interprovincial has itself indicated in evidence that, if it had to do this over again, it would do it differently. In that regard, any company proposing to construct facilities is free, at the outset, to utilize whatever criteria it considers appropriate under the circumstances. The Board must then determine whether the criteria selected are acceptable or whether important elements have been omitted. The Board's task, as well as the task of those interested parties who may wish to challenge the criteria, is plainly made much easier if a uniform set of criteria is applied on a consistent basis. Nevertheless, if in the final analysis a set of relevant and reasonably complete criteria emerge, the requirements of the Board will have been satisfied.

With regard to the absence of a cost-benefit study and a formal risk analysis, the Board is of the opinion that, while such studies and analyses can be of assistance, they are not essential in the circumstances of this case. Cost-benefit studies and risk analyses are most commonly reserved for use in the evaluation of

* Reference: Z183-M1982 (CSA Standard) Oil Pipeline Transportation Systems 3.1.1.7.2 A Zone 1 location is an area extending 200 m on either side of the centreline of any continuous 1 km length of pipeline that contains 5 or fewer dwelling units intended for human occupancy

projects of a considerably larger scale than that before the Board in this case. In such cases the inherent limitations of the cost-benefit and risk analysis techniques are offset by the magnitude of the projects. Even with major projects, these techniques must be used with caution and as a guide, not a substitute, for considered judgement. The Board does not find the absence of a cost-benefit study or a risk analysis to be critical items in the present case.

With regard to an environmental impact assessment, the Board notes that it had conditioned Order No. XO-1-83 so as to require Interprovincial to file an environmental impact statement on the two propane transfer terminals. The Board, therefore, does not consider the lack of an assessment to be crucial provided that the evidence, considered later in these Reasons, has addressed the significant environmental issues.

The Board finds the criteria identified by Interprovincial to be acceptable for the purpose of site selection. The next section of these Reasons for Decision, section 2.2, examines the process by which these criteria were used to identify and select or reject sites.

2.2 Site Selection Process

As mentioned in section 2.1, the site selection criteria identified by Interprovincial apparently evolved or were identified explicitly over time in response to the need to make business decisions at various stages of the development of the project or to explain decisions which had been taken.

The objective of the project was to serve the Golden Horseshoe area. This led Interprovincial to consider the Finch Avenue area of Toronto, the Bronte area near the Shell refinery site at Oakville, the Millgrove Junction area in the Town of Flamborough, and the Renforth area near Toronto (Appendix VII). Line No. 8, however, has its terminus at Bronte Junction. To place the truck and rail loading facilities beyond Bronte Junction, in the direction of Toronto, would have required Interprovincial to construct or to lease additional pipeline facilities. The cost considerations of those requirements led Interprovincial to reject sites east of Bronte Junction.

Interprovincial considered the Shell refinery area adjacent to Bronte Junction but also eliminated this site due to the additional construction cost involved. Use of this site would require the construction of a short lateral from Bronte Junction to the site which would involve boring under the Queen Elizabeth Way.

Interprovincial was concerned that, in Burlington, houses had been built on lots which extended onto the Interprovincial right-of-way so that Line No. 8 ran between the back fence and the back door. This, in Interprovincial's view, increased the likelihood of third-

party damage to the line caused, for example, by digging. This was the primary reason for rejecting the use of Line No. 8 to carry propane in this area.

Implicit in Interprovincial's rejection of the use of Line No. 8 to carry propane below the Niagara Escarpment (the escarpment) was the belief by Interprovincial that a site above but near the escarpment would meet its fundamental objective of bringing propane into the Golden Horseshoe area without the additional hazards posed by taking the propane over the escarpment.

With any sites below the escarpment eliminated, the search for sites was restricted to the Town of Flamborough. Sites further west would have moved the project too far from the area intended to be served.

Interprovincial's original application to the Board involved a single site in the Town of Flamborough. It was close to Line No. 8; it was close to a rail line within the Toronto rate schedule area; and, the land was zoned industrial or appeared suitable for rezoning. Access to the provincial highway network could be gained through regional or township roads. Construction at this site also maximized the use of existing facilities and did not appear, initially at least, to involve any unacceptable costs.

After filing its application with the Board, Interprovincial retained a consultant to assist it in dealing with the local authorities in connection with the development of the site. The consultant advised Interprovincial that the regional or township roads, which trucks would use to travel to and from the site, would require upgrading at Interprovincial's expense, if Interprovincial in fact located the truck loading facility on this site. As a result, Interprovincial began to look at sites adjacent to Highway 6. In the end, Interprovincial selected a site on Highway 6 for the truck loading facilities and a separate site for the rail loading facilities just to the north of the originally proposed site (Appendix VIII). These are the two sites in respect of which Order No. XO-1-83 was issued and which have been the particular focus of this hearing.

Neither site is zoned industrial and it is clear from the evidence that it is highly unlikely that the truck site would be zoned industrial. Both sites are zoned agricultural. Although Interprovincial recognized that the sites were not zoned industrial, it took the position that the proposed use of the lands was in the nature of a public utility and that utility uses were contemplated by and were consistent with local planning policies and by-laws.

Other sites along Highway 6 were rejected because they were, for example, in the case of industrial lands further south, considered to be too far from Line No. 8; in the case of lands located at an intersection, consid-

ered to be unsuitable for truck access at that point; and, in the case of lands located in Harper Corners, too close to a built up residential area.

As noted earlier in these Reasons for Decision, intervenors were critical of the apparently *ad hoc* manner in which the site selection evolved. The thrust of the intervenors' positions was that the Board should reject the sites selected by Interprovincial because Interprovincial had failed to justify the site selection on the basis of a comprehensive, exhaustive, and consistent evaluation of potential sites. The view of the Regional Municipality of Hamilton-Wentworth (the Region) was expressed as follows:

"The essence of evaluation is the assessment of the comparative merits of alternative courses of action. The process of evaluation in planning requires the generation of alternatives, the identification of interests, the establishment of objectives or criteria for evaluation based on the interests affected, the measurement of impacts and the assignment of relative weights for trading off conflicting interests and objectives. The complexity of land-use planning matters frequently justifies a rigorous approach to evaluation.

A number of frameworks have been developed to make the task of evaluation more manageable. They include cost-benefit analysis, the planning balance sheet, the goals achievement matrix, and environmental assessment."

Flamborough Residence Against Propane (FRAP), in its evidence, discussed the evaluation of impacts associated with a variety of criteria. As with the Region, FRAP made the submission that the site selection process should be uniform in evaluation and should consider the probability, the magnitude and the incidence of the impact. It stated that the results of that assessment should be presented in a format which would permit debate on the trade-offs among impacts and interests.

Intervenors also noted that, at different stages in the site selection process, Interprovincial brought into play different combinations of criteria to make decisions but that at no time did it appear that all the criteria stated by Interprovincial were employed by Interprovincial to assess all the sites which were considered.

As noted above, Interprovincial's concern about moving propane through Line No. 8 over the escarpment became an over-riding decision-making criterion which precluded possible sites below the escarpment and restricted the search for sites to the Town of Flamborough. This decision was vigorously attacked by intervenors. It was submitted that transportation by

pipeline was the safest means of transporting propane - safer than the trucks and tank-cars which would, with Interprovincial's proposal, move the propane from Flamborough to the Toronto area. It was also submitted that there was a lack of rationality in Interprovincial's fear of the consequences of a propane leak in Burlington given Interprovincial's acknowledgment that this fear was not based on an objective assessment of the likelihood of this occurring. It was further submitted that Interprovincial's position was inconsistent in that Interprovincial had not demonstrated that placing these facilities in the Town of Flamborough was any more acceptable from a public safety perspective than placing them in Burlington or Oakville.

Much discussion at the hearing centred on the relative merits of locating the facilities in the Shell Refinery area in Oakville. In the final analysis, the evidence of the safety witness for the Town of Flamborough/Regional Municipality of Hamilton-Wentworth (the Town/Region) was that locating the truck and rail loading facilities at the Shell Refinery area would require the construction of a new pipeline from the Millgrove Junction area to avoid the built-up area in Burlington. Given the proximity of housing to the line, he did not consider the present use of Line No. 8 acceptable for the transport of crude oil, let alone for the transport of propane.

Views of the Board

At the outset the Board wishes to state that the approach adopted by Interprovincial to site selection is not a model to be emulated by others. As noted earlier, Interprovincial has stated that, if it had to do it over again, it would do it differently.

Whatever criticisms can be made of Interprovincial's approach, the key issue is whether the decision not to extend the movement of propane over the escarpment is justified. The Board does not require the assistance of a risk analysis to appreciate that the consequences of a release of propane from Line No. 8 as it runs through the populated areas of Burlington could be severe and is something that should be avoided if possible. While it is a risk which might have to be accepted in some circumstances, it is a risk which need not be taken in the present case. The problem with houses which have been built with lots extending over the right-of-way militates against the use of Line No. 8 for propane service in this area. The Board does not consider the construction of a new line to be a practical alternative. As a result, the Board finds Interprovincial's decision to reject sites below the escarpment to be reasonable and acceptable in the circumstances of this case.

The Board accepts that it must be shown that Interprovincial has selected the proposed sites from a reasonable set of alternatives using a relevant and reasonably complete set of criteria. The Board is satisfied, however, that even though Interprovincial's approach to site selection is not a model approach, the evidence does demonstrate a rational and progressive approach to site selection. The Board finds that the criteria for and process of site selection are adequate

and reasonably explain the selection of the sites proposed. The Board is not, therefore, prepared to find the proposed sites to be unacceptable solely on the grounds that the selection process was flawed.

The balance of these Reasons for Decision considers whether the sites proposed by Interprovincial can and should be used as sites for propane transfer stations on the basis of the criteria set out earlier in these Reasons for Decision.

Chapter 3

Land-Use Issues

3.1 Utility vs Industrial/Commercial Facility

One of the planning issues which arose during the proceedings was whether the proposed facilities would be considered a utility, according to statutory definitions, or an industrial/commercial development. The characterization of the facilities as a utility would result in an exemption from the applicable local and regional policies and programs, as those documents either specifically exempt utilities from their application or are silent on the matter. A characterization of the facilities as an industrial/commercial development would carry with it the result that the proposed land-use would conflict with the existing local and regional policies and programs and, if the facilities were under provincial jurisdiction, those factors would be considered by the approving authority.

Interprovincial took the position that the facilities should be considered as utilities, based on the accessory function of the facilities to the pipeline. When reviewing the facility locations with local and regional plans, Interprovincial was unable to find specific policy provisions regarding location or development.

The Town/Region addressed Interprovincial's position from three perspectives. It was noted that, if Interprovincial felt that its proposal was of a utility nature, why then did it originally seek industrial-zoned lands on which to locate those facilities. While indicating that public utilities were exempt from requiring official plan and zoning amendments, the Town/Region also indicated that guidance provisions in the official plan recommend that utility location decisions should consider the impact of the utility on the character and amenities of an area. The Town/Region also presented two professional planners' opinions concerning the proposed facilities. Both opinions indicated that the proposed facilities were not utilities but, rather, were of an industrial/commercial or wholesale nature and, therefore, would have been considered in that light if the approval responsibilities were consistent with the Planning Act of Ontario, 1983.

Views of the Board

It is the view of the Board that confirmation or rejection of Order No. XO-1-83 does not depend on the land-

use planning classification of the proposed facilities. Whichever classification might be appropriate under provincial legislation is a hypothetical question, in this case, not requiring determination by the Board. The Board's decision on the appropriateness of the sites will be based upon the information before it. In arriving at its final decision the Board will take into account applicable local, regional and municipal legislation.

3.2 Official Plans and Zoning

Interprovincial indicated, in its application, that industrial zoning or suitability for rezoning was a criterion of site selection. That criterion was reflected in its original selection of the Cetinski property which was zoned, in part, general industrial. In addition, during the proceedings, it was indicated that Interprovincial's preference at that stage was for an industrial classification and that its land agents reviewed the relevant zoning of potential properties.

The Town/Region presented evidence that the final sites selected were not, in fact, industrially zoned; both of the proposed sites are designated and zoned agriculture. Neither the official plan, nor the zoning by-law would permit the uses proposed. The Town/Region also indicated that other facilities within the Town were zoned appropriately. The Town/Region further argued that the Board, as the senior agency in this application,¹ should 'assume' the role and responsibility of the Ministry of Municipal Affairs and Housing (MAH) with respect to the considerations of this land-use change.

Views of the Board

The Board notes that land-use designations in official plans are not final and may be modified if it is expedient to do so. The Board considers that the use of the sites for propane transfer stations, even if not in conformity with the official plans and zoning (if the sites are considered to be for industrial rather than utility use), does not of itself warrant rejection. The Board notes that the Town/Region may recognize the proposed uses, if it so chooses, and may designate them in their official plans and zoning by-laws accordingly. The Board does not feel that either its approval or the ultimate municipal designation of those facilities in

any way jeopardizes the integrity of either the Town's or Region's planning policies.

3.3 Issue of Split vs Joint Facilities

Interprovincial chose to abandon the originally applied-for combined facilities for separate truck and rail facilities to reduce land costs and to limit the imposition of truck traffic on town and regional roads.

Interprovincial noted that the proposed truck site provided natural screening from highway users and buffering to adjacent properties. The rail facility was presented as a linear feature, located along the railway which generated only the traffic associated with employees at that site and which would have limited or no impact on adjacent owners. It was the position of Interprovincial, as expressed by its consultant, that having the facilities twinned would be excellent from a planning viewpoint.

The Town/Region suggested that the Town's rural character and amenities would be affected by the presence of a propane transfer facility. It was indicated that, by splitting the facility, the relative impacts which must be considered also increased in scope, as would the number of residents concerned with the project.

Views of the Board

From the evidence before it, the Board is not convinced that the character or amenities of the Town will be compromised by the developments as proposed. The Board notes that Interprovincial has selected two sites which are in a less populated area and those sites will not be highly visible to the general public. Further, the Board accepts Interprovincial's position that its selection of a site adjacent to Highway 6 will reduce propane truck traffic on town and regional roads. The Board is of the opinion that direct access to a provincial highway is preferred when considering the truck traffic volumes generated by the truck facility.

3.4 Development on Agricultural Land

Interprovincial obtained options for the development of both its proposed rail and truck facilities on lands which were designated agriculture in the local official plan. Interprovincial presented information that the soils at the rail site had an Ontario Soil Survey classification for the cultivation of common field crops of Class 1 and 2* and was currently in agricultural production. The soil at the proposed truck facility was presented as having predominantly Class 2 capability for agriculture and was currently a woodland and abandoned pasture. For the truck facility, evidence indicated that in 1954 a portion of the property was

used to produce hay. A substantial amount of drainage work would be required to bring the property back to that level of productivity.

Intervenor examination of the evidence centred upon the non-compliance of the proposed facilities with zoning and official plan requirements. The agricultural capability was not disputed.

Views of the Board

The Board notes that, should the proposal proceed, 4.6 ha of agricultural land would be lost to the rail facility development and 3.0 ha of potential agricultural land would be lost to the truck facility development. While the Board accepts the provincial and municipal policies that high-quality agricultural lands should be preserved, it is not convinced that the truck site is of such quality. The Board is of the opinion that a preservation policy should not, in all cases, preclude development. The Board believes that the development opportunity offered by the properties' proximity to Line No. 8, and the fact that the properties are existing lots of record (not requiring the severance or splitting of existing agricultural land) warrants taking a small amount of agricultural land for the uses proposed.

3.5 Development on Flood-prone Lands

The issue of allowing development of the proposed truck facility within the flood plain and headwater area of a tributary to Grindstone Creek received considerable attention during the course of the hearing. Interprovincial indicated that, originally, it had not considered this issue. Subsequent evidence by Interprovincial indicated that it had discussed the proposal with the staff of the Halton Region Conservation Authority (HRCA), the provincial agency responsible for the control of development in those areas, and was

* Report No. 32 Ontario Soil Survey

Class 1

Class 1 soils have no significant limitations that restrict their use for crops. Their topography ranges from level to gently sloping. They are deep, well to imperfectly drained, have good water-holding capacity, and are reasonably well supplied with plant nutrients. They are easily maintained in good tilth, and damage from erosion is slight. Their productivity level is high for a wide range of field crops (including hay, fall wheat, oats, barley, and corn).

Class 2

These soils have moderate limitations that reduce the choice of crops or require moderate conservation practices. They have good water-holding capacity, and either possess high natural fertility or are highly responsive to fertilizer amendments.

Limitations result from one of the following characteristics: moderate erosion (E), stoniness (P), structure of permeability (D), low fertility (F), wetness (W), moisture deficiency (M).

satisfied that a design for the development, acceptable to HRCA, could be worked out. To that end, Interprovincial had provided a proposed site plan and a storm water study to HRCA.

The Town/Region, when asked for its opinion of the best use for the area, indicated that, from a resource management point of view, the best use would be as a wetland property as part of the headwaters of the Grindstone Creek system.

Mr. Hitchcock testified that, in his opinion, based upon evidence presented at the hearing by HRCA, HRCA would not approve any development of this sort. He indicated that that consideration, with others, would outweigh the cost considerations of another location.

HRCA presented evidence that it administers Regulation 164 R.R.O. 1980*, which regulation controls fill, construction and alterations to water courses throughout the watershed of HRCA. It indicated that, with respect to four other private development inquiries for the proposed site, it had advised that, in the regular course, a permit for development would be denied. HRCA did indicate, however, that if the proposed Interprovincial facility could be reduced in size and located on the high knolls of the property, then it might consider approval of the proposal.

It further noted that, by permitting the proposed development to proceed, increased pressure would be placed upon HRCA to permit additional private developments on similar lands.

Views of the Board

The Board acknowledges HRCA's mandate but in this instance, the Board is of the opinion that satisfactory flood storage maintenance and water control provisions can be developed.

3.6 Future Land-Use of Surrounding Lands

In selecting locations, Interprovincial was aware of adjacent land-uses. In fact, separation from abutting land-uses and a Zone 1 location were considerations of Interprovincial in its site selection. Although no formal report was prepared detailing the objectives, policies and by-laws of local and regional governments, Interprovincial was advised on those issues by its planning consultant. That consultant also produced a map of current land-use in proximity to the proposed sites. Interprovincial was not advised, however, of all the policies respecting future growth.

* Formally Ontario Regulation 272/72 Now Regulation 164, R.R.O. 1980 A regulation made under the *Conservation Authorities Act*, regulating fill, construction and alterations to water-courses throughout the watershed of the Halton Region Conservation Authority.

The Town/Region submitted that, in planning for new development, the Applicant should have considered the consequences of that development upon the interest and rights of existing inhabitants and landowners. Of specific concern were those owners with investments or planned investments in the developing community of Harper Corners and the effect of the potential change from agricultural and rural development to industrially-oriented development.

Evidence was presented by the Town/Region that the Urban Settlement Area of Harper Corners, located just north of the proposed truck facility, had a draft plan of subdivision pending development. That plan represented part of the anticipated development activity east of Highway 6. The Town/Region further indicated that, should the proposed truck terminal development proceed, the policies regarding expansion of the urban settlement area would have to be reviewed in terms of the advisability of that expansion.

The Town expressed the concern that the approval and development of the proposed facilities would influence future decisions on rural-industrial development proposals in the area. It indicated that, currently, there was a development proposal for a rural-industrial park on lands adjacent to the proposed rail facility before the Town. Town planning staff were opposed to that proposal based on:

- (i) the existing designation of a 202 ha industrial park at Clappisons Corners;
- (ii) the consideration of a further industrial area designation in the north of the Town; and,
- (iii) the objections and concerns of provincial agencies.

The Town stated that approval of one project would give impetus to the other. If the rail facility were developed, future justification, before the Ontario Municipal Board (OMB), of the municipality's position respecting that rural industrial park would be more difficult to maintain.

In support of the Town/Region's position concerning future industrial expansion proposals, FRAP submitted that the proposed facilities would attract other industrial users, whose production systems demanded large volumes of propane. Those industries would benefit from close proximity to bulk distribution facilities.

Views of the Board

The Board accepts Interprovincial's criterion of locating its facilities within a Zone 1 setting. Although the areas are rural in nature and zoned for agriculture, it is the opinion of the Board that the proposed sites minimize the disruption to adjacent owner rights and in-

vestments. The Board notes that a single residence would be adjacent to each of the proposed facilities. Interprovincial has undertaken to negotiate, with the owners, the purchase of the property adjacent to the truck site and, in the amended application, Interprovincial incorporated funds to obtain the property adjacent to the rail site if that was found to be advisable.

The Board does not believe that future residential growth in the Harper Corners area will be seriously impaired. In arriving at that opinion, the Board considered the size of the proposed facility (16.7 ha) and the typical lot sizes of developments in rural areas. It is the Board's belief that large, rural lots may be appropriately sited adjacent to the facility without im-

pairing the quality of those lots. That determination can be made and controlled by the municipalities involved and, in any event, the decision to purchase will rest with future investors who should be cognizant of the adjacent land uses.

Concerning the expansion of future industrial development, the Board notes that control rests generally with the municipality. It is the Board's view that the special nature and requirements of the proposed facilities are such that they do not prejudice either approval or refusal of future industrial applications by the municipality. Furthermore, the nature and requirements of the proposed facilities should be understood readily by the OMB in the event that a future, private application is presented to that body.

Chapter 4 Environment

4.1 Environmental Report

Interprovincial's environmental consultants, Ecoplans Ltd. (Ecoplans), testified that the environmental report on the truck and rail propane facilities was based on the relevant sections of Part VI of the Schedule to the Board's Rules of Practice and Procedure (Part VI).

Ecoplans indicated that it investigated those factors that were considered to be most significant in the design and operation of the facilities.

Ecoplans acknowledged that its original report did not include a discussion of alternative sites, or an extensive analysis of potential or probable off-site environmental impacts. It were aware also that both sites had received Board approval prior to the preparation of the report.

Ecoplans testified that, in its opinion, the report was a reasonable assessment of the major issues. It agreed that the requests for additional information made before the close of the hearing in 1983 were not unreasonable.

To prevent or mitigate any serious environmental impacts as a result of the construction and operation of the truck and rail facilities, Ecoplans included a recommendation section in its report (Appendix IX).

Interprovincial's policy witness testified that Interprovincial would undertake to comply with those recommendations.

HRCA, FRAP and the Province of Ontario (the Province) were concerned that both the truck and rail sites had received Board approval prior to the preparation of Ecoplans' report. In their view, that report should have been filed concurrently with the application, and should have been included in the site selection process as part of an environmental impact study.

Several Intervenors, including FRAP and HRCA, indicated that the report did not conform entirely with the requirements set out in Part VI.

In final argument the Province indicated its opposition to the project, but it and other Intervenors stipulated that if the project were confirmed, Interprovincial should adhere to the various environmental recom-

mendations made by Ecoplans and any additional undertakings given by Interprovincial at the hearing.

Views of the Board

The Board is satisfied that the Ecoplans report, including the responses to the requests for additional information, adequately addresses the major environmental issues. The Board considers that the environmental mitigation measures contained in the report should provide an adequate level of environmental protection during the construction and operation of the proposed facilities.

The Board would require Interprovincial to submit, for approval, an environmental management program, for the proposed truck and rail facilities, incorporating Interprovincial's management policies with respect to the recommendations contained in the Ecoplans Environmental Information Report.

4.2 Off-Site Impacts

Ecoplans stated that it did not critically evaluate the potential for off-site impacts when preparing its environmental report as it was not retained to do so. Ecoplans specifically stated that no in-depth study was conducted to determine the possible impacts on Grindstone Creek following the truck site development. Ecoplans testified that it examined the truck and rail sites and in its professional judgement, no significant environmental impacts should occur off-site as a result of the construction or operation of either propane facility. With respect to the truck site, Ecoplans felt that no significant interaction should occur between that site and areas downstream (i.e. Grindstone Creek) since an intermittent stream is the only link between the two. With respect to the rail site, Ecoplans indicated that only a low probability exists for interaction with off-site areas because drainage at the site would not be altered significantly.

FRAP, CROP, HRCA and the Province were concerned about the potential for off-site impacts. In their view, Interprovincial should have examined, in depth, the potential for off-site impacts as a result of the construction and operation of the truck and rail facilities. Instead, the studies were site-specific which made it

impossible to determine accurately the kinds of impact one could expect in the vicinity of either station.

HRCA specifically referred to Grindstone Creek. In its submission, that creek, which lies downstream of the truck site, could have its base flows reduced once the truck site is developed. Currently, Grindstone Creek provides some of the water needed for the sewage treatment plant situated at Waterdown and for market gardens and nursery tree farms that are situated in the area.

Views of the Board

Having reviewed the evidence presented, the Board is satisfied that the development of the propane facilities should have minimal environmental impacts on off-site areas. Despite this general viewpoint, the Board notes that the main stream at the truck site (a tributary to Grindstone Creek) does fill with water during the springtime, thereby linking that stream with Grindstone Creek. The Board would expect Interprovincial to ensure that the effects of construction and operation of the truck facility would not alter the flow régime of the tributary creek in such a way that water users and biological resources along Grindstone Creek would be adversely affected.

The Board notes that little or no drainage alteration will be required at the rail site and, therefore, off-site impacts should be minimal.

4.3 Drainage and Hazard Lands

Ecoplans confirmed that the truck site is subject to partial or total inundation by water in the springtime. Although the main part of the site proposed for active development is predominantly above the 50-year flood line, it is within the 100-year flood line.

Ecoplans stated that the tributary, which bisects the truck site, has been heavily modified by agriculture and now acts as a ditch draining the area to the north and east.

Ecoplans explained that if the truck site were properly drained, there would be an improvement in the quality of timber since some areas are now too wet for optimum timber growth.

In addition to the main ditch that crosses the truck site, there are other ditches at the back of the property. Ecoplans indicated that some of the farmers who live upstream of the truck site depend on those drainage courses to remove excess water from their properties. Ecoplans realized the importance of those drains to nearby farmers, and recommended that the drainage function of the site be maintained. Ecoplans indicated that a principle component of final design should be

negotiation with adjacent landowners to consider all those ditches that drain into or out of the truck site. Interprovincial's policy witness accepted that recommendation.

During the course of the hearing, HRCA voiced strong opposition to the development of the truck site due to its susceptibility to flooding in the 1:100 year storm event and that all but 1 to 1 1/2 ha is considered wetland. At present, the site functions as a swamp headwater to Grindstone Creek.

HRCA testified that since 1972 it has administered Regulation 164.R.R.O., 1980, and its predecessor regulation, designed to control construction in swamps and lands susceptible to flooding. Grindstone Creek has undergone a significant reduction in base flows over the years and filling or construction within swampland could further reduce the headwater catchment of Grindstone Creek.

HRCA stated that it has endeavoured to control development in headwater areas because the cumulative effect of development could increase the risk of flooding and reduce normal flows.

Several Intervenors testified that Interprovincial should have considered other lands which are flood-free and not headwater areas. Intervenors stated that a change in land-use, such as that proposed for the truck site, could create a change in the run-off characteristics of the property which could ultimately affect upstream and downstream users particularly those engaged in agriculture.

Although HRCA was not fully aware of all the ditches at the truck site, it acknowledged that the main ditch which divides the property in an east/west direction provides the drainage outlet for the agricultural area to the north and east of the site.

Views of the Board

On the basis of the evidence submitted, the Board is of the opinion that the existing drainage network at the truck site should remain essentially unchanged since no permanent development is proposed for the area of those ditches.

As an aid to achieving effective drainage during and after construction at the truck site, the Board would encourage Interprovincial to consult with nearby property-owners, especially those who have farms upstream of the site.

4.4 Groundwater and Water Wells

Ecoplans testified that the construction and operation of the truck or rail facilities should not interfere with either the quality or quantity of water at nearby domes-

tic wells. It stated that the nearest well to the rail site is more than 200 m away while the nearest well to the truck site is about 180 m away. The majority of wells in the area of both sites utilize a bedrock aquifer which will not be affected by construction of the proposed facilities.

During the excavation of the fire ponds at both sites, there may be a localized drawdown of the groundwater table. Ecoplans explained that the deeper groundwater sources used for domestic water supplies should not be affected. Ecoplans also stated that several farm ponds have been dug in the vicinity of the proposed truck and rail sites and there is no indication that those ponds are affecting the availability of water for domestic purposes.

Ecoplans explained that the type of soil material occurring in the area and wetlands, such as those characterizing the truck site, should attenuate any potential contamination of groundwater. Furthermore, the major groundwater flows are from the west and north and not from the east where the truck site is located. Hydraulic gradients present in the area generally suggest a rather slow movement of groundwater.

HRCA, FRAP and other Intervenor expressed concern about the potential for contamination of groundwater and associated water wells. The Town/Region argued that the truck site presents a definite risk of impairment of water supply. FRAP noted that Interprovincial had not adequately evaluated the groundwater system, nor had it analysed the probable nature and extent of impacts on groundwater when the fire ponds are being replenished.

HRCA shared the concern of several other Intervenor with respect to the potential drawdown effects of the groundwater table through the excavation of the fire ponds.

Both the Town/Region and FRAP recommended that Interprovincial undertake a well survey, prior to, during and after construction, and that any problems with nearby wells that can be attributed to the construction or operation of those facilities be rectified immediately by Interprovincial.

Views of the Board

Based upon the evidence presented at the hearing, the Board finds that Interprovincial has adequately assessed the implications for the groundwater system, both in terms of quality and quantity. It is the Board's view that construction and operation of both facilities should cause only minor temporary interruption, if any, to groundwater and associated water wells.

The Board, however, realizes that the excavation and filling of the fire ponds could cause a temporary, local-

ized drawdown of the groundwater table. Because of that possibility, the Board accepts Interprovincial's undertaking to conduct a well survey prior to, during and after construction and to take any remedial steps necessary to rectify interference with water supply at nearby residences.

The Board would also require Interprovincial to establish an on-site containment strategy for the management of contaminants.

4.5 Noise

Ecoplans stated that it assessed the existing noise environment at the truck and rail site and projected the anticipated noise levels that would be associated with those facilities. Ecoplans further stated that relatively high noise levels could be expected during the construction phase of the project, as trucks entering, leaving or idling on the property would cause the most noise.

Using a data source provided by Central Mortgage and Housing Corporation, Ecoplans testified that existing noise levels for Highway 6 would place residences in a "normally unacceptable category". In its judgement, the operation of the truck facility should not contribute significantly to a raising of the ambient noise level currently characterizing the area.

Using the applicable factors to estimate railway noise, Ecoplans reasoned that the level of operational noise which would be experienced by homeowners adjacent to the rail site would be considered acceptable.

Ecoplans recommended that construction-related noise should be restricted to normal working hours. As a means of minimizing noise at the truck site during operations, they suggested that the depth of woody vegetation surrounding the proposed facility should be maintained and possibly enhanced, machinery such as pumps or compressors should be enclosed and noise levels should be monitored, on-site, during the initial operational period.

Ecoplans indicated that a berm or some form of fencing should be considered to reduce the noise, if a noise problem is identified during operation of the rail facility.

Several Intervenor asserted that Interprovincial had failed to conduct proper noise measurements at each of the planned facilities. FRAP stated that the evidence clearly showed that the nearest residence to the truck site would be subjected to unacceptable noise levels when propane trucks "start up and get underway". FRAP stated that in their estimation, Ecoplans' noise analysis was "incomplete and inconclusive".

The Town/Region indicated that no noise measurements had been taken on sites comparable to the pro-

posed transfer stations, while the Province commented on the lack of noise measurements at the rail facility.

Views of the Board

The Board has examined all the evidence and is of the view that noise associated with the operation of both the truck and rail facilities should not add appreciably to the existing noise environment. This can only be confirmed once operation of the sites has commenced. The evidence shows that there are ways to mitigate any adverse noise conditions should they develop.

The Board realizes that during the construction phase higher noise levels would exist than would normally occur during the operational mode. The Board accepts Interprovincial's undertaking to maintain and possibly enhance woody vegetation surrounding the truck site, to enclose noise sources such as compressors, and to restrict construction activities at both sites to normal work hours. In addition, the Board would require Interprovincial to develop a noise monitoring program for those residences situated within 200 m of the proposed rail facility. The results of that program should be submitted to the Board, for approval, within six months after leave-to-open has been granted. If noise levels at the rail site are higher than previously anticipated, Interprovincial would be expected to take appropriate measures to reduce that noise to acceptable levels.

4.6 Environmentally Sensitive Areas

With respect to the Haysland Forest and Wildlife Environmentally Sensitive Area (the Haysland Forest), that lies to the west of the proposed truck site, Ecoplans testified that there should be little or no environmental impact as a result of the construction or operation of the proposed facility. In its view, the Haysland Forest is too distant to be affected by the truck site and is not linked by a permanent stream. While discussing the various criteria and selection methods used by Ecologistics Ltd. in defining the Haysland Forest as an environmentally sensitive area, Ecoplans referenced a sentence in the Ecologistics Ltd. report which stated that "... hydraulic gradients suggest a rather slow movement of groundwater ... from the west and from

the northwest into the sensitive area ...". The truck site is situated to the east of the Haysland Forest.

Ecoplans did concede that there is a remote possibility of minor disturbance to the Haysland Forest during those wet months of the year when the intermittent stream, which runs through the proposed truck site, fills with water.

According to the report prepared by Ecologistics Ltd., the Carlisle Swamp Environmentally Sensitive Area (the Carlisle Swamp), which is located across the railway track from the rail site, is particularly sensitive to hydrological changes. Ecoplans noted, however, that since minimal drainage alteration will be required at the rail site, little or no environmental impact on surrounding areas such as the Carlisle Swamp should result.

Several Intervenors expressed concern that both the Haysland Forest and the Carlisle Swamp could be affected by the construction and operation of the proposed propane facilities.

With specific reference to the truck site, the Town/Region reasoned that when the intermittent stream linking that site with the Haysland Forest fills with water, there is a possibility that the Haysland Forest could be affected. As well, the Town/Region and others testified that, if there was any interference with the groundwater flow (i.e. hydrology of the rail site), there could be an impact on the Carlisle Swamp.

Views of the Board

The Board is of the view that the possibility of significant interaction between the truck site and the Haysland Forest is remote, due to the nature of the groundwater flow in the area and the intermittent nature of the stream that links the truck site with areas downstream.

The Board has the same view with respect to the possible environmental impacts on the Carlisle Swamp. Although the report prepared by Ecologistics Ltd. identifies hydrological sensitivity as a major concern for the Carlisle Swamp, Ecoplans' representatives have stated that minimal drainage alteration would be required at the proposed rail facility and, therefore, any off-site impacts on the Carlisle Swamp would be minor.

Chapter 5

Highway and Railway

5.1 Highway

5.1.1 Highway 6 and Traffic Issues

During the hearing, considerable evidence was presented on the implications of the proposed truck facility development on the current and future use of Highway 6, the weather conditions affecting the highway, and the road design for ingress to and egress from the facility. Interprovincial supplied a witness from the Ontario Ministry of Transportation and Communication (MTC) to discuss highway issues and MTC's approval-in-principle of the truck-site access. The Town/Region presented evidence through its own consultant, while FRAP relied upon testimony of two local residents.

With respect to the existing use of the highway, Interprovincial indicated that although Highway 6 is now designated as a controlled access highway, it was not so designated when approval-in-principle from MTC was received for access to the proposed truck facility. The access provisions were based upon MTC criteria relating to a Queen's highway. Those provisions governed such items as access positioning, improvements and frontage requirements.

Evidence indicated that the design speed for the highway is 100 km/hr, the posted speed is 80 km/hr and current traffic operates at approximately 90 km/hr. Traffic on the highway possibly will increase in the future due to the completion of the highway widening to four lanes between Freelon and Highway 401. It was indicated that the increase would be offset, to some extent, by future upgrading of Highway 403 from Brantford to Ancaster and Brantford to Woodstock.

In its review of the site design, MTC did not consider the potential for heavy fog conditions to be sufficient to warrant special design features beyond signage. It was noted that more serious fog conditions, due to swampland, did develop in the Freelon area.

Concerning the highway design features for ingress and egress at the proposed site, MTC indicated that the proposed design considered the peak hour traffic volumes and movements on Highway 6. Its evaluation

assumed 60 to 70 truck unit movements within a 24-hour period, with a design-hour volume of 12 units. MTC concluded that the randomness of traffic gaps on the highway would allow safe entrance of propane trucks from the designated northbound and southbound lanes into the terminal. It was MTC's opinion that provision for a northbound acceleration lane for trucks exiting the terminal would have added a risk to the highway. Interprovincial noted that pre-wiring for traffic lights would be provided in the event that truck movements impaired the normal highway movement sufficiently to warrant traffic light installations.

Several general points were raised by the Town/Region concerning MTC's evidence. It noted that only 5 percent of the traffic gaps had a duration of 10 seconds or more, and Intervenor suggested that an appropriate site should have between 20 to 25 percent of its traffic gaps of that duration. Evidence provided by Interprovincial indicated that a truck would require 10 to 11 seconds to make a left turn southbound from the terminal. The Town/Region also established that, in 1981, a resolution of the Regional Council had been approved which, in effect, requested MTC to restrict access of all future developments along Highway 6. It was further established that the Minister of Transportation and Communication had responded to that resolution in May 1981, indicating that "Special Control of Access Criteria" on Highway 6 was being implemented at that date and that MTC had not considered those controls in its approval-in-principle of Interprovincial's access design for the truck facility.

FRAP's evidence on the highway location dealt with both the current use of the highway and the effect of weather conditions on the highway in the vicinity of the proposed terminal. It was indicated that, at present, a problem exists when turning left from a regional road or laneway to proceed south. Traffic volumes, especially during rush hour, could require up to a five-minute wait to allow safe entry onto the highway. With respect to the weather conditions, it was noted that the phenomenon of 'hoar' frost (ice pebbles which can cause unusual driving conditions) occurs from time to time in the area of the proposed truck-site.

Views of the Board

The Province of Ontario, through the mandate of MTC, has jurisdiction over highway design, construction and modifications. Therefore, the Board will rely on MTC's expertise in establishing final access design requirements that would address the safety concerns of the Board.

5.1.2 Traffic Signalization

In its assessment of intersection design treatment for access to the proposed site, MTC recommended improvements to Highway 6 consisting of the introduction of a southbound left turn-in lane, a northbound deceleration lane for a right turn-in, and underground wiring for future signalization.

Interprovincial indicated that the installation of signalization was a matter that MTC would address later if it felt it to be necessary.

It was the Town/Region's position that, while the installation of traffic lights would create gaps in traffic movement and reduce vehicle speed in the vicinity of the signalization, it would, at the same time, increase the accident rate on Highway 6. In the event that the facility were approved and traffic lights installed, it was the opinion of the Town/Region that warning signals should be installed to provide permanent advance warning of those upcoming traffic signal lights and thereby mitigate against the probability of increasing the number of accidents.

Mr. Hitchcock indicated that, in his view, signalized intersections were accident generators particularly in unexpected locations. In his opinion, a signal at the location of the proposed transfer site would not be expected since Highway 6 is a major interurban highway without an urban built-up area near the truck site.

The Province submitted that installation of traffic lights may increase rear-end collisions, but other kinds of collisions would be reduced.

In final argument, FRAP was of the opinion that traffic signalization at the access to the truck terminal would be necessary if the terminal were to be constructed. FRAP indicated that signalization, consisting of demand-activated lights, should be installed at the intersection and that flashing lights should be introduced at a minimum of a thousand feet away from the site in both directions.

Views of the Board

The Board notes that a considerable length of time has elapsed since the review of the Highway 6 access to the truck site was performed by MTC. In view of the evidence submitted concerning the Highway 6 design

and the propane truck movements, the Board considers that the need for immediate installation of traffic signalization, advance warning lighting to indicate a change in signal condition and ingress-egress illumination should be carefully reexamined by MTC. Therefore the Board would direct Interprovincial to discuss further, with MTC, the matter of highway access to the proposed truck terminal, paying particular attention to those issues. Interprovincial would be expected to reflect all changes in its final design drawings in accordance with MTC requirements.

5.2 Railway

5.2.1 Goderich Lateral and Railway Issues

The proposed railway terminal will be utilized to deliver propane from Interprovincial's pipeline into tank-cars for rail transport to the east. The proposal includes the installation of a new rail siding into the Canadian Pacific Railway's (CPR) Goderich Lateral in the Town of Flamborough.

CROP, FRAP, the Town/Region and other Intervenor raised concerns as to whether incidents such as the Mississauga, the Waterdown North and the Varennes railway incidents could occur as a result of the proposed rail facilities on the Goderich Lateral.

Interprovincial's CPR witness responded by indicating that measures, such as hot-box detectors, tank-car head-shields and thermal insulation, ordered by the Railway Transport Committee of the Canadian Transport Commission (CTC), as a consequence of incident investigation, have led to the safer transport of propane.

The Intervenor also questioned the stability of the railroad bed and the suitability of level crossing signalization. According to the CPR witness, the present crossings are suitable, the road bed is stable, and the Goderich Lateral has received "a clean bill of health" from CTC.

Views of the Board

The Board notes that CPR and its facilities are under the jurisdiction of CTC. Although the Board has taken into account the general matter of the feasibility of shipping propane by rail in its consideration of the terminal site, the Board is not prepared to deal with any questions of traffic or safety beyond that point.

5.2.2 Access Switches

CPR indicated acceptance of the proposed railway site if the access switches and spur line were constructed in a safe manner and met its standards.

CROP, FRAP and the Town/Region discussed safety of rail switches in the light of the Waterdown North and the Varennes incidents. In both cases, derailments were related to poor visibility of railway switches which had been vandalized.

The CPR witness indicated that the proposed location would have good sight lines at both switch locations and visibility of the switch targets would not be a problem.

Views of the Board

It is the opinion of the Board that the proposed site layout and aerial photos filed at the hearing indicate that switch visibility may be impaired by an existing grove of trees and a railway curve north of the site. As the design responsibility for rail lines and spurs rests with CPR, the Board would expect Interprovincial to discuss lighted switch targets, switch-point locking devices and private switch locks with that organization.

Interprovincial would be expected to reflect all changes in its final detailed design drawings.

Chapter 6

Public Safety

6.1 Potential Hazards of Propane

6.1.1 Heat Radiation

In the event of ignition of a spilled pool of propane or a boiling liquid expanding vapour explosion (BLEVE), intense heat radiation would be produced. Evidence was presented by the Town/Region and Interprovincial concerning the distances at which second-degree burns resulting from the heat radiation could occur in 30 seconds assuming various possible accident scenarios. Table 6-1 below summarizes that evidence.

Table 6-1:

**Second-Degree Burn Limits for
Worst Case Scenarios as Presented by
Panels on Public Safety**

Scenario	Town/Region	Inter-provincial
1. BLEVE of Rail Tank-Car or the Storage Tank at the Truck Site	<275 m	>290 m
2. BLEVE of the Storage Bullet at the Rail Site	<325 m	
3. Pool Fire of 40 m ³ Spill from Tank-Truck		59.7 m
4. Pool Fire following a Complete Rupture of the 203.2 mm Connection at the Rail or Truck Site		88.4 m

It was the view of Interprovincial's expert witness on public safety that the instantaneous release of propane from a tank-car at the rail terminal was not a credible scenario.

Views of the Board

The Board realizes that the scenarios presented in Table 6-1 are those which could potentially result in the most damage from heat radiation. Although serious incidents of this nature could occur, they are unlikely if the sites are operated and maintained in a safe manner. Nevertheless, the Board feels that Interprovincial must be prepared to deal with that possibi-

ty. Accordingly, the Board would require Interprovincial to include, in its emergency response manual, procedures to be followed should such accidents occur.

6.1.2 Projectiles

In the event of a serious propane accident occurring, there is the possibility of explosion and flying debris. Interprovincial indicated that the National Fire Protection Agency recommends an evacuation distance of 762 metres (m) to protect the public from flying debris due to the BLEVE of a tank-car.

It was the view of the Town/Region that a 1,000 m evacuation distance for the public should be enforced in the event of an accident which might produce a BLEVE.

Views of the Board

The Board is aware that in the event of a serious propane accident, projectiles could travel long distances. To maximize protection of the public the Board would require that Interprovincial, if so requested, cooperate with local authorities in preparing procedures for evacuation of the public within 1,000 m of the proposed sites, such procedures to be enforced in the event of a potential BLEVE situation.

6.1.3 Cloud Drift

Should a propane spill occur without the propane being immediately ignited, the propane could form a vapour cloud which might remain in a flammable state and travel some distance from the point of release. Such a cloud could disperse harmlessly into the atmosphere, or could burn or explode should it encounter an ignition source.

The distances at which the cloud could present a danger would depend on the size and nature of the propane spill as well as atmospheric and site conditions. The distances which a propane cloud could possibly drift was the subject of considerable discussion during the hearing. Table 6-2 below summarizes that evidence.

Table 6-2:

**Estimated Distances at which a Propane Cloud
Might Remain a Hazard from Point of Release**

Scenario	Town/Region	Inter-provincial
1. Spill Resulting from the Complete Rupture of a 219.1 mm Feeder Line at Either Site		250 m
2. 45 m ³ Spill from a Tank-Truck		260 m*
3. Release from a Rail Tank-Car	1,000 m (several thousand metres if other factors were considered)	420 m*

The witness retained by the Town/Region to address risk matters suggested that under certain conditions, and assuming that the propane cloud was formed by release of the propane in jet form directly into the atmosphere, a flammable propane cloud might travel a kilometre or further. However, he further indicated that he was not aware of any cases of flammable clouds drifting more than a few hundred metres from the point of origin.

Interprovincial's public-safety expert estimated cloud drift distances using a complex computer model which assumed that the propane cloud would be formed by evaporation from a spill of propane on the ground. It was his evidence that 420 m was the greatest distance which a cloud, originating from the proposed facilities, could drift.

The Town/Region asserted that estimating potential cloud drift distances was important so that appropriate emergency plans could be established to deal with such an event should it ever occur. The Town/Region's public-safety witness indicated that although the actual theoretical cloud drift distance was not crucial, it was important that contingency planning recognize that a flammable cloud could drift some distance from the point of release.

Views of the Board

The Board considers that proper contingency planning with respect to the facilities is of prime importance to protect the safety of the public. The Board expects that Interprovincial would address, in its emergency response manual, the possibility of flammable propane clouds forming and drifting.

* Estimates reflect changes made in the computer program utilized subsequent to original submissions.

Given that evacuation plans for potential BLEVE situations should provide for an area of one kilometre radius around the site as indicated in Section 6.1.2 of this report, the Board is of the view that a similar evacuation distance should be provided for in the event of any accident which might result in a significant propane release.

6.1.4 Overpressures Resulting from Explosion

Overpressures in the atmosphere would occur if a propane vapour cloud were to explode. Table 6-3 summarizes evidence presented concerning the distances at which damage theoretically could occur.

Table 6-3:

**Distances at which
Damage Could Theoretically Occur
as a Result of Overpressures**

Scenario	Town/Region	Inter-provincial
1. Spill from Rail Tank-Car or the Storage Tank at Truck Site		
a. window breakage	1,100-1,600 m	>850 m
b. houses made uninhabitable	300-355 m	
2. Spill from the Bullet at the Rail Site		
a. window breakage	1,285-1,870 m	
b. houses made uninhabitable	350-415 m	
3. Window Breakage Resulting from Explosion of an "Empty" Tank-Car	350 m	240 m

Item 3, Table 6-3, reflects a matter stressed by the expert witness for the Town/Region. He stated that "empty" rail tank-cars represented a neglected hazard, as such cars could contain a flammable level of propane and could explode in the event of an accident.

There are many uncertainties associated with estimating the effect of a propane vapour cloud explosion. Those are quite apparent from the range of distances shown in Table 6-3. The public-safety witness for the Town/Region estimated distances using two different methods. His results differed by up to 45 percent.

The distances at which damage could occur, as estimated by Interprovincial, were less than those distances estimated by the Town/Region. The differences are attributable to differences in assumptions and methods used.

Views of the Board

The Board concludes from the evidence that overpressures could result from accidents with propane, and

that damage could occur some distance from the explosion. It would be extremely difficult to implement measures to mitigate against damage occurring in the event of such an explosion. The Board feels that proper design of the proposed facilities, and appropriate operation and maintenance procedures will provide adequate safeguards against such events. The design, operation and maintenance of the proposed facilities is discussed in Sections 7.1 and 7.3.3 of this report.

6.2 Potential Ignition Sources

If a propane spill were to occur, it would be extremely unlikely to cause any damage unless it were ignited. If no source of ignition was in the area, then the propane would eventually disperse harmlessly into the air. Accordingly, it is important to minimize potential ignition sources at the proposed sites.

6.2.1 Smoking on Site

During the hearing, Interprovincial indicated that it intended to permit truck drivers to smoke in the washroom or the office complex at the proposed truck site.

The Town/Region was of the opinion that cigarettes, matches and lighters should not be allowed anywhere on either site.

Views of the Board

The Board feels that smoking should not be permitted anywhere on either site. The Board would expect Interprovincial to designate both sites as non-smoking areas, and would also expect the site operating manuals and signs to decree that no smoking materials be permitted on either site.

6.2.2 Electrical Fixtures

The Fuel Safety Branch of the Ontario Ministry of Consumer and Commercial Relations (MCCR) filed a memo suggesting that buildings within the proposed terminals should not contain any open flame appliances and that only explosion-proof fixtures should be used. That suggestion exceeds the present code requirements but MCCR did not present any witness to testify or to substantiate the suggestion. However, other Intervenor's echoed and elaborated the same request.

Interprovincial indicated that explosion-proof design, definitions and requirements are outlined by the Electrical Protection Branch of Ontario. During cross examination, Interprovincial also stated that final designs would be reviewed for code compliance and explosion-proof equipment would be installed wherever it was required.

Views of the Board

The Board notes that the requirements of the Energy Act and Regulations of Ontario, with respect to separation distances, exceed the requirements of the Canadian Gas Association Installation Code for Propane Burning Appliances and Equipment for open flame appliances. The Board expects Interprovincial to comply with the separation distances as tabulated in the Ontario Regulations. As well Interprovincial is expected to satisfy the Electrical Safety Code, Class 1, Division II, Group 'D' requirements within the distances as set out in Table 13-15-1 of the Ontario Regulations.

6.2.3 Proximity to Radio Transmitter

The public-safety witness for the Town/Region expressed concern about the proximity of a radio transmitter to the rail site. It was his evidence that such transmitters could present an ignition source because of their potential to cause resonance in structures. He further indicated that he had been unable to determine the power or frequency of the radio transmitter.

Views of the Board

The Board is not persuaded that the proximity of radio transmitters to the proposed facilities would present a potential ignition source in the event of a propane spill at the rail site.

6.2.4 Other Potential Ignition Sources

In its submissions Interprovincial indicated that the flare stacks to be located at the sites would be potential ignition sources. The flare stacks, about 10.7 m high, would burn any propane vapours vented. Either a pilot light or an electronic ignition system would be used to ignite the flare.

It was the opinion of the Town/Region's public-safety expert that, in the event of a propane spill, a pilot light would be adequate to ignite a propane cloud.

The Town/Region indicated that it was also concerned about potential ignition sources at the transfer stations which Interprovincial had not addressed in its evidence. Those include such sources as personal static charges, friction sparks from tools, security lighting, forest fires, vehicles, snow ploughing and grass cutting. Concern was also expressed by Intervenor's that, should propane migrate to Highway 6 from the truck site following a spill, it could be ignited by passing vehicles.

Interprovincial testified that tools which do not generate sparks would be used at the transfer stations. Interprovincial further indicated that the facilities could be protected from grass fires or forest fires by appropriate design and landscaping.

Views of the Board

The Board realizes that all possible ignition sources could never be totally eliminated from a site. The Board would expect Interprovincial to make every effort to minimize the number of potential ignition sources. Toward that goal, the Board would require that Interprovincial include appropriate measures in its final design and operating manuals.

6.3 Contingency Plans

It was the view of Intervenor that Interprovincial should have presented contingency plans for the proposed facilities during the hearing. As such plans were not provided, the Town/Region requested that, should the facilities be approved, it have the opportunity to comment on any emergency response plans which Interprovincial might submit.

Views of the Board

The safety of the public residing near the proposed facilities is of primary importance to the Board. The Board is well aware of the hazards associated with propane, and feels that careful contingency planning could mitigate potential damage from a serious propane incident.

The Board would require Interprovincial to provide an emergency procedures manual for review and approval by the Board before leave-to-open the facilities is granted. That manual would be expected to address emergency measures to be followed on-site, in the event of a propane release. After Board approval of the manual Interprovincial would be required to provide the Town and Region with copies of the manual. If local authorities decide to develop evacuation plans for the population in the areas near the sites, Interprovincial would be expected to co-operate in formulating such plans, should it be requested to do so.

6.4 Manning of the Sites

Interprovincial originally proposed that the truck site be an unmanned facility. It was the position of Interprovincial that the competence of tank-truck operators would be ensured by the fact that they would be required to be licensed by the Province of Ontario to load and unload propane at the facilities.

The Propane Gas Association of Canada Inc. (PGAC) indicated that of approximately 1,448 propane truck loading and unloading facilities in Canada, 38 were unmanned facilities.

Throughout the hearing, Intervenor stressed the importance of manning the truck site. The Town/Region's expert on public safety felt that an unmanned site would be substantially more hazardous than a

manned site. It was his evidence that manning the site would improve the detection of leaks and the speed of response to propane spills. As well, security and maintenance of the site would improve with a manned site.

During rebuttal of final argument, Interprovincial indicated that it would be willing to man the truck site for an initial six to nine-month period of operation. Following that period, Interprovincial would intend to reassess the matter.

Views of the Board

The Board would direct that the truck site be manned during operational periods. The Board would not consider any application to operate the station as an unmanned facility for a period of at least one operating year. As well, Interprovincial would be directed to submit its training program for on-site personnel, for Board approval.

6.5 Watt Residence

The Watt residence is located in a cut-off corner adjacent to the truck site (see Appendix VIII). The terrain of the area slopes down toward the Watt residence.

Mr. Watt testified that he felt that the proposed facilities were not safe, and that the risk to his property posed by the facilities was unacceptable.

During final argument, Counsel for FRAP argued that should the facilities be built, unreasonable fear and concern would be imposed on the Watts, and therefore, Interprovincial should be required to expropriate the Watt property.

In rebuttal, Interprovincial indicated that if the facilities were approved, it would undertake to acquire the property.

Views of the Board

The Board is concerned that the Watt property is particularly exposed to any hazards arising from the proposed truck site because of its proximity to the site and the ground contours. The Board would condition the order for construction of the facilities on Interprovincial expanding the truck site to include the Watt property. As well, the Board would require that the property not be used for any residential purpose.

6.6 Risk to School Children

The Wentworth County Board of Education indicated concerns for the safety of school children, since a public school is located approximately 1,400 m from the proposed rail site, and about 850 m from the junction of the railroad and the Sixth Concession Road.

The Town/Region's public-safety witness indicated that projectiles and propane vapour clouds resulting from a major accident could conceivably pose a hazard to the school.

Interprovincial indicated that the only risk to which the school might be exposed would be the possibility of window breakage from an explosion.

Views of the Board

The Board recognizes that there are differences between the evidence of Interprovincial and the Town/Region concerning the possible affect on the public school of serious propane accidents. The Board feels that both parties provided their best estimates during evidence, and that differences are due to assumptions and calculation methods used.

The Board considers that the probability of damage at the school as a result of a propane accident would be negligible. In the first instance, there would be a low probability of any propane spill occurring. Should an accident occur, the probability would be very low that it would be a serious accident. Finally, the probability of a serious accident occurring with damages being directed towards and reaching the school would be negligible.

Concern was expressed by Mr. Butwick, a resident of Harper Corners, about the possibility of accidents involving propane trucks and school buses on Highway 6.

The Board notes that the highway is under the jurisdiction of MTC, and that tank-truck operators would be required to be licensed by the province. The Board is confident that provincial regulations will ensure safe operation of propane trucks on Highway 6.

6.7 Propane Gas Association of Canada Inc.

PGAC provided a panel to testify to the safety of propane use and distribution and the propane industry in general. PGAC indicated that the safety record of the propane industry in operation and transportation has been exemplary, and that in Canada, where there are more than a thousand propane transfer stations, there has never been a fatality or major incident at such a facility. Accordingly, PGAC felt that there was no risk of a major accident occurring at either of the sites.

6.8 Security in the Event of an Incident

In final argument, FRAP proposed that Interprovincial should be required to post a bond as security in the event of a catastrophic accident.

In rebuttal, Interprovincial argued that such a bond was unnecessary, as in the event of a serious accident, Interprovincial would be subject to the normal processes of law.

Views of the Board

The Board is of the opinion that the existing legal remedies available to a person injured as a result of an accident arising from activities at the proposed locations are sufficient to protect the public. Accordingly, the Board has decided that it would not be necessary to impose a condition requiring Interprovincial to post a security bond.

6.9 Summary of Board Views on Public Safety

There was considerable discussion during the hearing about the hazards presented by propane, and the grave consequences which could result from a propane accident. The evidence indicated that serious accidents were rare.

The fact that propane is a hazardous substance, which under a variety of situations could cause damage to persons and property, does not in and of itself mean the sites chosen by Interprovincial are unsuitable. To reach such a conclusion on this basis alone would, in effect, say that propane is too dangerous to be used under any circumstances. The fact that local residents are unwilling to accept the risks, whatever they may be, while understandable, is also on its own an insufficient reason to find the sites unsuitable. To so find there would have to be one overriding factor, or a number of factors, which when taken together, demonstrate the unsuitability of the sites. The Board is of the view that the public-safety factors taken together do not demonstrate such unsuitability and the Board is satisfied that Interprovincial can operate and maintain the proposed facilities in a safe manner.

Furthermore, the Board would review the final design of the facilities, and the operating and maintenance procedures, to ensure that they meet the required safety standards.

Chapter 7

Site Engineering

7.1 Final Design Documents

With its application, Interprovincial filed preliminary designs of its proposed rail and truck propane facilities. The adequacy of the designs was questioned during the course of the hearing by Intervenor and elaborated upon by Interprovincial and its panels of consultants and specialists.

In final argument, the Town/Region requested that, should the Board approve the facilities, it have the opportunity to review the final design documents and contingency or emergency response plans. It further requested that Interprovincial be required to pay the Town/Region's cost of reviewing those documents. Interprovincial indicated that it was willing to let the Town/Region examine the final design documents, but did not accede to paying their costs of doing so.

Views of the Board

While the Board notes Interprovincial has indicated that it would be willing to allow the Town to examine the final design, the Board would not require Interprovincial to do so. Order No. XO-1-83 provides that the Board must approve the final design before construction could begin and it would not alter that requirement.

7.2 Line No. 8

7.2.1 Adequacy of Line No. 8

FRAP, CROP and the Town/Region raised concerns about the depth of cover, cathodic protection, pipeline inspections, repairs and hydrostatic tests related to Line No. 8. Those Intervenor were concerned about the adequacy of Line No. 8 for conversion to propane service.

Interprovincial responded by providing depth of cover records, an outline of its cathodic protection program, a description of its internal pipe inspections and a description of its repair procedures. As well, Interprovincial discussed the original hydrostatic testing and inspections which took place before leave-to-open was granted for the existing pipeline. Interprovincial reiterated that the entire pipeline would be internally

cleaned, and that additional pipeline control valves would be installed to convert the pipeline to propane service. Interprovincial also stated it was generally accepted that transportation of propane by pipeline over long distances is the safest way of transporting that product.

Pursuant to Order No. XO-1-83, the Board had previously authorized the conversion of Line No. 8 for propane service from Sarnia to Millgrove Junction. The Board allowed discussion on that subject to the extent that it was relevant to the safety of the line in relation to alternative sites between Millgrove and Bronte Junction.

As the hearing progressed, the Board became increasingly concerned about the extent to which various matters, including operations and safety related to the main pipeline system, were being examined. On 3 May 1985, the Board issued a ruling dealing with the subject (Appendix X). At that time, the Board indicated that, although safety is a relevant consideration in the selection of sites for the truck and rail loading facilities, it considered that "...the safety procedures and systems for the facilities can be viewed separately from the pipeline." Therefore, the Board did not permit further cross-examination as it related to the main pipeline system.

7.2.2 Pipeline Control and Leak Detection

Intervenor questioned Interprovincial's ability to detect pipeline leaks and to remotely shut down the pipeline if a leak were detected. The Town/Region alleged "...that there is no feasible, practical control system capable of controlling this line that is known to the technology of IPL".

Interprovincial stated that its consultant, who specializes in pipeline leak detection and control systems, is currently working on Interprovincial's Line No. 1, and the Norman Wells pipeline-control systems, and will be working on Line No. 8 as soon as time permits. Interprovincial also discussed its remote-operated valves, remote data sensing, data telemetry and the backup for its various systems as related to pipeline leak detection and control.

The Board reiterates its statement, made in the aforementioned 3 May 1985 ruling, that “the safety procedures and systems for the facilities can be viewed separately from the pipeline”. The Board further notes that Condition 4(a) of Order No. XO-1-83 requires Interprovincial to submit, for approval of the Board, prior to construction, details of a pipeline control and leak detection program.

7.3 Site Control

7.3.1 Vehicle Access

7.3.1.1 Truck Site

The truck terminal will occupy approximately 1.5 ha of the 16.7 ha truck site located along Highway 6 as shown in Appendix XI.

During cross examination, the MTC witness stated that Interprovincial advised him that 12 trucks would arrive at the truck site during the design hour. That figure is used for intersection design, not site layout, and represents the maximum number of trucks expected to enter the site during any one hour throughout a 24-hour period. That, coupled with the evidence of approximately 45-minutes loading time per truck, created some concerns among Intervenors. FRAP, the Town/Region and other Intervenors were concerned that that traffic, together with the proposed layout of the site access lane, could create hazardous situations. The site could load only two trucks at a time, and an additional two or three trucks could wait in the parking lane along the access road. Thus, if more than two or three trucks arrived at the site while others were loading, the trucks might have to wait along Highway 6. As well, the only provision for exit, for a truck which had entered the access lane, would be to make a full loop past the truck loading facilities.

Interprovincial indicated that a schedule could be worked out between itself and the shippers to reduce traffic congestion. Interprovincial stated, however, that it would prefer to operate for a period of time before committing to additional construction. Later, during cross examination, Interprovincial indicated that the final design of the site would likely include provisions for a truck turning lane and additional parking outside the entrance gate.

Views of the Board

The Board accepts the argument that traffic congestion could result if the current facility layout is utilized. The Board is of the opinion, therefore, that a turn-round lane outside the entrance gate would be required at the proposed site and additional parking would be desirable. The Board would expect Interprovincial to incorporate those requirements in the final design for the truck facility.

7.3.1.2 Rail Site

The proposed rail site would occupy a narrow property of approximately 4.6 ha which parallels the CPR line as shown in Appendix XII. A single-vehicle access road would extend the entire length of the property to a turning loop located in the south end. The road would run parallel to the length of the rail-car loading rack with a separation of approximately 25 to 30 m. Interprovincial indicated that, in the event of an emergency at the loading racks, emergency egress for personnel could occur through a gate located on the east side of the turning loop.

CROP questioned the adequacy of the emergency rear gate at the rail site, and drew upon evidence which indicated the existence of a row of trees, approximately 6.1 m in width, along the southeastern perimeter of the property. CROP alleged that during certain emergencies the site could be severed and emergency vehicles would have no access to the southerly portion.

Views of the Board

The Board agrees with CROP that Interprovincial should provide a vehicle access route to the south end of the proposed rail site for use during emergencies. The Board would condition the order accordingly and would require Interprovincial to reflect the change in the final design documents submitted for Board approval.

7.3.2 Computer and Emergency Controls

At the truck site, vehicle access and propane loading would be controlled by an on-site computer. At both sites, the computer would monitor custody transfer, gas detection, fire detection, site isolation and data acquisition. The flow data and status of all terminal systems would be communicated to the control room in Sarnia. The truck-site access control would allow a maximum of two propane trucks at the site at any given time. Board counsel questioned whether there would be any safety mechanisms to prevent an incoming truck from approaching and hooking up at the loading island while another truck was loading propane. Counsel also questioned whether data on the access cards would be read and interpreted or whether the system would just check for the presence of a magnetic strip. FRAP and the Town/Region questioned under what restrictions and to whom the truck-site access cards would be issued.

PGAC indicated that safety codes prohibited an incoming truck from approaching and hooking up at the loading island while another truck was loading propane.

Interprovincial indicated that an incoming vehicle could approach and hook-up near a loading truck

provided that adequate spacing was maintained between the two trucks. Interprovincial would initially supervise the loading and train the drivers and, thereafter, would leave compliance with the loading codes up to the truck drivers.

Interprovincial indicated that the magnetic access cards are working effectively at other sites, and that it would provide both a lock-box with an access key or card for emergency purposes, and a man-gate with a lock for access if the site computer is down.

Intervenors expressed concern that there was no proposal for a back-up computer to the single computer located at each site and that the buildings did not appear to be adequately flood-proofed.

Interprovincial indicated that a back-up computer was not necessary since any malfunction of the computer would cause the terminal to shut down and would isolate it from the mainline. The critical emergency signals from fire detectors, gas detectors and emergency push buttons, would be hard-wired to the automatic site isolation valves. They would also be sent to the computer and to the Sarnia control center. The entire control system also would be protected from power failures by the use of storage batteries and the control buildings would be adequately flood-proofed.

FRAP and the Town/Region expressed concern that neither the feeder line nor the terminal had any form of leak detection.

Interprovincial responded by indicating that the site would be protected by the mainline leak detection program while the feeder line was open and the terminal was filling vehicles. When no deliveries were being made, the feeder line motor-operated valve would be closed, isolating the site from the mainline. In addition to the mainline leak detection system, the feeder line would have a low pressure sensor which would be tied in to the automatic shutdown system. The loading area and other areas containing critical equipment would have gas detectors installed to detect any leaking propane. Any detected leak would activate the emergency shutdown system.

Views of the Board

The Board is satisfied that a back-up computer is not essential since Interprovincial has undertaken that all critical emergency signals would be hard-wired to provide the same reaction that the computer would have if it were operating. The Board expects that Interprovincial would ensure that all buildings and electrical components would be adequately flood-proofed.

7.3.3 Operating Manuals

The Town/Region questioned Interprovincial's witnesses regarding both the availability and the intended contents of a site operating manual. Intervenors implied, through questioning, that it was difficult to fully assess the safety of the site without such manuals.

Interprovincial indicated that the final site design would have to be completed and hardware ordered before manuals could be written. Interprovincial stated that it had obtained a manual in use at a propane depot in Alberta, to provide reference material in producing its own. Questioning by Intervenors revealed that the manual was for a manned site and would not be directly applicable to an unmanned truck terminal.

Views of the Board

The Board would require Interprovincial to file the site operating manuals for Board approval. Interprovincial should take care to ensure that the operating manuals comply fully with the requirements of the Pipeline Regulations and detail the procedures for items such as on-site security, loading and routine maintenance. The Board also would require that Interprovincial file copies of the approved operating manuals with the Town and Region.

7.4 Technical Details

7.4.1 Cut and Fill

Interprovincial retained Upper Canada Consultants to prepare a site plan to suit the proposed location. The consultants' proposal recognized the flooding potential of the site and presented a cut and fill program to maintain the present flood water storage capability.

HRCA indicated that the flood volumes to be used for the analysis should be significantly larger than originally forecast by Interprovincial's consultant. HRCA also indicated that it was not willing to accept the major disturbance to the existing swampland necessitated by a cut and fill program. As well, HRCA expressed concerns that the proposed site dimensions were already too large and would affect a significant portion of the wetlands.

Interprovincial's consultant stated that the placing of imported fill, without any cutting, would increase flood levels by less than half an inch during the worst flooding conditions.

During cross examination by Board counsel, Interprovincial's engineering witness indicated that during a one-in-a-hundred-year flood the access road would be flooded and the site would be shut down. That evi-

dence caused the Town/Region some concern as access for emergency vehicles would not be possible at that time should an incident occur.

During cross-examination with respect to the truck access and parking, Interprovincial indicated that additional parking areas and a possible turnaround lane would be considered in the final design plans for the truck terminal. That lane and additional parking probably would fit within the area of the proposed site with little or no additional land requirements.

The railway site would not require any significant cut and fill, other than normal site grading.

Views of the Board

The Board is of the opinion that a proper cut and fill program, together with a revegetation program for the truck terminal, could enhance the flood-proofing of the terminal, improve drainage of existing highlands, improve flood storage capacity, lengthen drainage time of lowered wetlands and assist in the re-establishment of a suitable wetland community in the disturbed areas. The Board would expect Interprovincial to consult with HRCA prior to developing those programs.

7.4.2 Site Piping

For the truck and rail sites the site piping is virtually duplicated from the mainline connection through to the loading control system. The truck site loading controls are more complex since that site is intended to operate on an unmanned basis. For both sites all electrical wiring, piping and feeder valves will be below ground and all site valves and connections will be above ground.

Intervenors were concerned about the lack of detail contained in Interprovincial's application and questioned witnesses regarding the feeder line, line isolation, site isolation, valving layout, storage vessel requirements, pressure relief mechanisms and flare stack operations.

Although Interprovincial filed a schematic diagram for a combined loading terminal with its original application, it did not provide separate drawings for the split facilities. During cross examination, Interprovincial witnesses responded to those questions regarding separate sites by providing a hand-drawn schematic for each site as well as an oral description of the schematic functions. The schematics showed the inter-connections of the piping, manual valves, automatic isolation valves, pressure control valves, pressure release valves and the low-pressure sensors. In addition, Interprovincial described the loading island layout, the flare systems, the propane transfer pumps and the propane storage vessels.

Views of the Board

The Board is satisfied that Interprovincial can design, construct, operate and maintain the proposed facilities in a safe manner and would not vary the requirements for approval of final design as set out in Order No. XO-1-83.

7.4.3 Mercaptan and Propane

The Town/Region was of the opinion that the storing of the odourant ethyl mercaptan at the sites would present an additional risk to the public. Evidence on ethyl mercaptan indicated that it is toxic at high concentrations. The Town/Region also indicated that it had concerns regarding the possibility of a propane leak going undetected since propane arriving at the sites would not be stench.

Interprovincial explained that the odourant is not toxic at the concentrations at which it would be used to stench the propane going into tank-trucks or tank-cars. Interprovincial indicated that ethyl mercaptan would be added automatically at the truck site, and if an unstench load was required, an operator would have to take specific actions to prevent the ethyl mercaptan from being added. At the rail site, ethyl mercaptan would be manually loaded since a significant amount of unstench propane is required for industrial purposes. Interprovincial also indicated that it had not planned to use gas detectors when doing a walk-around inspection prior to the release of an unstench, loaded tank-car.

The Town/Region stated that it was of vital importance that vehicles transporting propane be dedicated to propane and not used to transport other materials. It was their evidence that transport of other materials (switch loading), such as ammonia, could lead to stress-corrosion cracking of tanks, or to air infiltration of a tank with the possibility of adiabatic compression and ignition occurring. Interprovincial stated that it assumed that the trucks would be dedicated to propane.

Views of the Board

The Board recognizes that the delivery of unstench propane is necessary. The Board would require Interprovincial to include in the site operating manuals, and to enforce, specific procedures for loading unstench propane including the use of gas detectors for the inspection of vehicles.

The Board is of the view that concerns regarding switch loading are adequately addressed in provincial regulations. Further, the operation and inspection of propane vehicles falls under the jurisdiction of MCCR. Consequently, the Board has no mandate to deal with the issue.

7.4.4 Size of Terminals

The application projected total propane volumes for transportation of roughly 3,300 m³/per day over the period of 1985 to 1995.

Intervenors questioned the proposed size of the terminals, and whether the sites could or would be expanded beyond that shown in the application. FRAP also explored the maximum number of trucks and tank-cars that potentially could be loaded. Assuming the smallest capacity truck and a doubling of the loading efficiency rate, it questioned whether 140 trucks could be loaded from a single loading island in a day. Intervenors also expressed the concern that once Interprovincial had obtained approval and constructed the site, the company could obtain approval to expand the site with little or no further public input.

Interprovincial commented that, if everything was very efficient and the timing was perfect, possibly 140 trucks could be loaded. However, it reiterated that the site would only handle 50 vehicles per day based on a projection of approximately 3,000 m³/day of propane being split evenly between the truck and the rail site. Interprovincial also stated that, at this time, it is applying for only one loading island and one railway spur. Further expansion would require another application to the Board.

When questioned about hypothetical expansion of markets to the east, Interprovincial stated that it would consider extending the pipeline further east and installing a new terminal before considering expansion of the proposed Flamborough facilities.

Views of the Board

The Board has reviewed the evidence and finds that Interprovincial's estimate of 50 trucks per day at a single loading island is a realistic assessment of the facility's capability.

The Board notes that this application is for a single truck loading facility with one loading island and for a single rail loading facility with only one spur. Interprovincial must apply to the Board for any expansion or modification to the proposed facilities beyond that contained in the application.

7.5 Fire-Fighting

7.5.1 Proposed On-site Facilities

The application contained a brief description of the proposed fire-fighting equipment such as the water pond, water pumps, monitors and the dry deluge system.

FRAP, the Town/Region and other Intervenors questioned the details and raised concerns about the oper-

ation of the automatic fire water pumps, the monitors, the dry deluge systems and operation of the emergency control systems.

The Town/Region was of the opinion that a six-hour water supply would be essential for emergencies and was critical of the fact that approximately a one and one-half-hour supply was proposed.

Interprovincial's witness stated that, to his knowledge, the majority of similar Liquid Propane Gas (LPG) plants in Alberta and Ontario had no fire water system at all.

The truck site would have a 500,000 U.S. gallon water pond, feeding seven hydrants, at the site. In addition, the storage tank and truck loading island would be protected with a dry deluge system. Fire detectors would be installed to shut down all loading operations and activate the deluge system automatically upon detecting fire. Gas detectors would be installed to ensure that loading operations would be terminated in the event that gas were detected.

The rail site would have 16 hydrants and additional fire monitors so each tank-car could be protected by the deluge system. With that exception, the safety features at the rail site would be identical to that of the truck site.

All of the fire-fighting safety equipment would be designed to meet applicable codes, standards and any additional requirements of the company's underwriters.

Views of the Board

The Board is of the view that Interprovincial's proposal for fire ponds and associated equipment will provide adequate fire-fighting capabilities.

7.5.2 Regional Fire-fighting Capability

The Town/Region expressed particular concern about the impact that the propane terminals would have on the local fire-fighting capabilities during an incident.

The Town/Region, FRAP and other Intervenors questioned Interprovincial regarding its knowledge of the resources available locally and what aid it would expect from the Town during emergencies. The planning expert called by the Town/Region was also a volunteer fireman, and he indicated that he and some of the other volunteer firemen had not yet fought a fire, and that their present training was limited to familiarization visits to the local firehall and to viewing and discussing videotapes about fire fighting.

The Town/Region sought evidence on Interprovincial's emergency call-out procedures to show that the local fire department is usually the first outside group to be

called. In the same vein, the Town/Region witness on hazard analysis testified that "...experience always shows that the local fire department has to handle the job right from the beginning".

During cross-examination, Interprovincial indicated that it was not aware of municipal facilities, municipal water supply, municipal fire-fighting equipment, training of volunteer fire fighters or the response time of the volunteer force in the event of a propane incident.

Both Interprovincial and the CPR witness indicated, during cross-examination, that they rely on local fire departments to provide a response to fires since it is one of the services they would expect as taxpaying residents in an area. However, both companies indicated that they would cooperate with local groups if the groups were to set up an emergency-measures program. As well, Interprovincial did undertake to assist or cooperate in the training of the Flamborough Volunteer Fire Fighters with respect to the handling of propane fires.

PGAC discussed the accident-free record of a pro-

pane transmission system, with seven unmanned key-stops, stretching from Empress, Alberta to Winnipeg, Manitoba. PGAC stated that the small volunteer fire departments in those rural areas did not have any specialized equipment to aid in dealing with LPG accidents.

Views of the Board

The Board noted the lack of awareness that Interprovincial displayed regarding the fire-fighting resources of the local municipality. It is the Board's view that it would be desirable to have the facilities designed and operated in a manner that is as independent as possible of local fire-fighting resources.

The Board notes that Interprovincial has undertaken to assist in training local fire-fighters to deal with propane fires. The Board would expect that Interprovincial would develop procedures and train at least some of its operating personnel (including some at its Westover Terminal) to fight propane fires. The Board also expects Interprovincial to include such procedures in its operating manual.


Chapter 8 Disposition

The Board has carefully considered and weighed all of the evidence placed before it and has determined that on balance Interprovincial has satisfied the Board that the subject locations are suitable for the proposed transfer stations. The Board was not persuaded by any single submission of Intervenors, or by the totality of their arguments, that Interprovincial had not demonstrated the overall suitability of the subject locations. Therefore the Board has decided that, subject to the terms and conditions contained in Board Order No. AO-2-XO-1-83 (Appendix XIII), the Board's decision exempting Interprovincial from the requirements of paragraph 26(1)(a), subsection 26(2) and sections 27, 28 and 29 of the Act is affirmed.

However, the Board is of the view that the submissions of Intervenors contributed significantly to the case placed before the Board and provided the basis for many of the requirements that the Board expects Interprovincial to satisfy in the planning, construction and operation of the proposed facilities.

With respect to the matter of costs, the Board wishes to advise parties that the question of the Board's jurisdiction to award costs is still before the Federal Court of Appeal. Should the Court rule that the Board has the power to award costs to parties in this case, the Board will convene a hearing, solely for the purpose of hearing argument on whether or not costs should be awarded in this particular case and if so, the quantum of such costs.

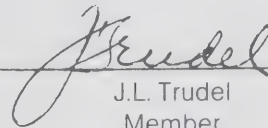
The foregoing, together with Board Order No. AO-2-XO-1-83, constitute the Reasons for Decision and the Decision in this matter.



A.D. Hunt
Presiding Member



J.R. Hardie
Member



J.L. Trudel
Member

ORDER NO. XO-1-83

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder; and

IN THE MATTER OF an application by Interprovincial Pipe Line Limited (hereinafter called "the Applicant"), dated the 27th day of May, 1982, and amended by information dated the 20th day of October, 1982, the 13th day of January, 1983, the 25th day of February, 1983 and the 9th day of March, 1983, for an Order pursuant to Section 49 of the Act exempting certain new facilities and certain modifications to existing facilities in the Province of Ontario, from the provisions of certain sections of the Act, filed with the Board under File No. 1755-J1-43.

B E F O R E the Board on 4 May 1983.

WHEREAS the Board has considered the said application and satisfied itself that the said new facilities and modifications to existing facilities are required by the present and future public convenience and necessity;

IT IS ORDERED THAT

- (i) modifications to approximately 210.1 km of the Applicant's existing 508 mm diameter Line No. 8 to propane service from km post 2804.555, situated in part of the South Quarter of Lot A, Registered Plan 13, Township of Sarnia, County of Lambton, Province of Ontario, to km post 3014.671, situated in part of Lot 2, Concession 5, Township of Flam-
borough, Regional Municipality of Hamilton-
Wentworth, Province of Ontario,
- (ii) a truck loading facility,
- (iii) approximately 280 m of 203 mm diameter line of pipe connecting Line No. 8, at km post 3007.344, to the truck loading facility referred to in (ii) of this Order,
- (iv) a rail loading facility, and
- (v) approximately 500 m of 203 mm diameter line of pipe connecting Line No. 8, at km post 3011.694, to the rail loading facility referred to in (iv) of this Order, are hereby exempt from the provisions of

paragraph (a) of subsection (1) and subsection (2) of section 26, and sections 27, 28 and 29 of the Act, and upon the following conditions:

1. The Applicant shall, except as otherwise authorized by the Board, cause the said new facilities and modifications to existing facilities to be designed, manufactured, located, constructed, installed and tested in accordance with those specifications, drawings and other data set forth in the said application, as amended, and in conformity with applicable specifications and requirements of the National Energy Board Oil Pipeline Regulations (SOR/78-746).
2. The Applicant shall cause no variation in the specification, drawings and other data, referred to in condition 1. hereof, to be made without the prior approval of the Board.
3. The Applicant shall cause the modification, construction and installation of the facilities, herein referred to, to be completed on or before the 1st day of May, 1984, unless upon application by the Applicant, a later date is fixed by the Board.
4. The Applicant shall, prior to the commencement of construction of the new facilities and modifications to the existing facilities, submit for the approval of the Board:
 - (a) a description of the leak detection and line control system as required in Board information request dated 1982-07-20, requisitions No. 17 and 21,
 - (b) an environmental impact statement on the two propane transfer terminals, including an indication of the proposed restoration techniques to be utilized at the two propane transfer terminal sites.
 - (c) a report on the electronic pigging results, the proposed repair program, as well as the pressure test program for Line No. 8,
 - (d) plot plans, elevation profiles and layout of the facilities for both truck and rail propane transfer terminals,

- (e) final design drawings of the Sarnia Propane injection facilities and Millgrove truck and rail propane transfer terminal facilities, and
 - (f) a list of all codes, standards and regulations applicable to the facilities referred to in (e) of this condition.
5. The Applicant shall, within six months after construction, submit a report satisfactory to the Board describing the implementation of the restoration techniques referred to in paragraph 4(b), any

modifications to those procedures and an assessment of their effectiveness.

NATIONAL ENERGY BOARD

G. Yorke Slader
Secretary

ORDER NO. AO-1-XO-1-83

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder; and

IN THE MATTER OF Order No. XO-1-83, dated 4 May 1983, respecting certain new facilities and certain modifications to existing facilities of Interprovincial Pipe Line Limited, filed with the Board under File No. 1755-J1-43.

B E F O R E the Board on 30 April 1984.

WHEREAS Order No. XO-1-83, dated 4 May 1983, exempts certain new facilities and certain modifications to existing facilities for the transmission of propane, in the Province of Ontario, from the provisions of paragraph (a) of subsection (1) and subsection (2) of section 26, and sections 27, 28 and 29 of the Act, as more particularly set out in said Order;

AND WHEREAS Condition 3. of said Order No. XO-1-83 provides that the modification, construction and installation of the facilities, referred to therein, shall be completed on or before 1 May 1984, unless upon application by Interprovincial Pipe Line Limited, a later date is fixed by the Board;

AND WHEREAS the Board has read the submission of Interprovincial Pipe Line Limited (hereinafter called "the Applicant"), dated 19 April 1984;

AND WHEREAS the Applicant has requested an amendment to Condition 3. respecting the completion date for the modification, construction and installation of the said facilities;

AND WHEREAS the Board has received and considered submissions from several interested parties with respect to this application;

IT IS ORDERED THAT Order No. XO-1-83, dated 4 May 1983, is amended by deleting Condition 3. thereof and replacing it with the following condition:

"3. Subject to the outcome of the appeal presently before the Federal Court of Canada with respect to this matter, the Applicant shall cause the modification, construction and installation of the facilities, herein referred to, to be completed on or before a date to be fixed by the Board at the conclusion of the hearing held pursuant to Order No. MH-1-83."

NATIONAL ENERGY BOARD

G. Yorke Slader
Secretary

Appendix III

ORDER NO. MH-1-83

IN THE MATTER OF the National Energy Board Act and the Regulations thereunder; and

IN THE MATTER OF Order No. XO-1-83 issued to Interprovincial Pipe Line Limited, pursuant to section 49 of the National Energy Board Act; and

IN THE MATTER OF a hearing pursuant to subsections 17(1) and 20(3) of the National Energy Board Act, filed with the Board under File No. 1755-J1-43.

B E F O R E the Board on Thursday the 7th day of July 1983.

WHEREAS the National Energy Board (hereinafter called "the Board") on the 4th day of May, 1983 issued to Interprovincial Pipe Line Limited (hereinafter called "Interprovincial") Order No. XO-1-83 authorizing the construction and operation of certain pipeline facilities for the transmission of propane, including truck and rail loading facilities, all as more particularly set out in the Order;

AND WHEREAS local authorities and landowners in the Township of Flamborough, Ontario have expressed concern about the proposed location of the truck and rail loading facilities, and have requested that the Board reconsider the May 1983 decision;

AND WHEREAS the Board, pursuant to subsections 17(1) and 20(3) of the National Energy Board Act, finds it advisable to hold a public hearing to receive the submissions of Interprovincial and interested parties, for the purpose of reviewing that portion of the Board's May 1983 decision approving the location of the loading facilities;

IT IS ORDERED THAT:

1. A public hearing shall commence at the Holiday Inn in Burlington, Ontario, at 9:30 a.m., the 16th day of August, 1983 to receive the submissions of Interprovincial and interested parties on the matter of the location of the truck and rail loading facilities.
2. The hearing will be limited to the matter of the location of the truck and rail loading facilities.

3. Interprovincial shall, as soon as possible, arrange to have the Notice of Hearing as set out in Appendix I to this Order published in one issue each of "The Hamilton Spectator", in the City of Hamilton; "The Flamborough Review", in the Town of Waterdown; "The Globe and Mail", in the City of Toronto; and "The Citizen", in the City of Ottawa, all in the Province of Ontario, and in the Canada Gazette.
4. Unless otherwise authorized by the Board, any person wishing to make a submission at the hearing shall, on or before the 8th day of August 1983, send one copy of his submission to the Secretary of the Board and one copy to Interprovincial. The submission should contain a brief outline of his position with respect to the location of the loading facilities and should be accompanied by any supporting material on which the person intends to rely.
5. The procedure to be followed at the hearing will be as follows:
 - (a) Witnesses for Interprovincial will provide an overview of the project approved by Order No. XO-1-83 and will provide details on the proposed location of the truck and rail loading facilities, including details on alternative sites considered, and the criteria utilized in determining the proposed location in preference to alternative locations.
 - (b) Interested parties and the Board may cross-examine the witnesses provided by Interprovincial.
 - (c) Interested parties may present their submissions on Interprovincial's proposed location of the loading facilities, potential alternative sites, and the criteria which should be utilized in determining the preferred location for the loading facilities.
 - (d) Interprovincial and the Board may cross-examine interested parties on their submissions.

6. Interprovincial shall, as soon as possible, arrange to have all the material which was filed with the Board in support of the location of the loading facilities, including Board information requests and Interprovincial's responses thereto, made available for inspection by the public at the following locations:

Interprovincial Pipe Line Limited
P.O. Box 48 - 1 First Canadian Place
Toronto, Ontario
M4X 1A9

Waterdown Public Library
25 Mill Street North
Waterdown, Ontario

Township of Flamborough
352 Dundas Street West
Waterdown, Ontario
L0R 2H0

Copies of this material may also be inspected at the offices of the National Energy Board, 473 Albert Street, Ottawa, Ontario K1A 0E5.

7. The proceedings will be conducted in either of the two official languages, and simultaneous interpretation will be provided should a party to the proceedings request such facilities.

Dated at the City of Ottawa, in the Province of Ontario, this 7th day of July, 1983.

NATIONAL ENERGY BOARD

G. Yorke Slader
Secretary

Appendix I

Order No. MH-1-83
National Energy Board
Notice of Public Hearing
Proposed Location of
Propane Loading Facilities of
Interprovincial Pipe Line Limited

The National Energy Board will conduct a public hearing pursuant to subsections 17(1) and 20(3) of the

National Energy Board Act to receive submissions from interested parties with respect to the location of rail and truck propane loading facilities.

The hearing is being held to review that portion of the Board's May 1983 decision approving the location of the facilities in the Township of Flamborough, Ontario.

The hearing will commence at 9:30 a.m. on Tuesday 16 August 1983, at the Holiday Inn, Burlington, Ontario.

Any person wishing to make a submission at the hearing should, by 8 August 1983, send one copy of his submission to the Secretary of the Board and one to Interprovincial. The submission should contain a brief outline of his position with respect to the location of the loading facilities and should be accompanied by any supporting material on which the person intends to rely. These persons will be provided with a copy of Order No. MH-1-83 (available in French or English) which sets out the procedure to be followed at the hearing. Copies of material relating to the location of the loading facilities may be examined at Interprovincial's offices in Toronto, at the offices of the Board in Ottawa and at the offices of the Township of Flamborough in Waterdown, Ontario, and the Public Library on Mill Street in Waterdown, Ontario.

For further information, telephone the Board's Information Services Division, at (613) 593-6936.

G. Yorke Slader
Secretary
National Energy Board
473 Albert Street
Ottawa, Ontario
K1A 0E5

Dated at Ottawa
7 July 1983

Appendix IV

ORDER NO. AO-1-MH-1-83

IN THE MATTER OF the National Energy Board Act and the Regulations thereunder; and

IN THE MATTER OF Order No. XO-1-83 issued to Interprovincial Pipe Line Limited, pursuant to section 49 of the National Energy Board Act; and

IN THE MATTER OF a hearing pursuant to subsections 17(1) and 20(3) of the National Energy Board Act, filed with the Board under File No. 1755-J1-43.

B E F O R E the Board on Thursday the 24th day of January 1985.

WHEREAS the National Energy Board (hereinafter called "the Board") by Order No. MH-1-83 dated 7 July 1983 set down a public hearing to receive the submissions of Interprovincial Pipe Line Limited (hereinafter called "Interprovincial") and interested parties on the matter of the location of Interprovincial's proposed propane truck and rail loading facilities, approved by the Board by Order No. XO-1-83 dated 4 May 1983;

AND WHEREAS the public hearing was adjourned until such time as the Board might set a date for the hearing to resume;

IT IS ORDERED THAT:

1. A public hearing shall commence at the Holiday Inn in Burlington, Ontario, at 9:30 a.m., 26 March 1985 to receive the submissions of Interprovincial and interested parties on the matter of the location of the truck and rail loading facilities.
2. In the event that the proceedings are not completed by 4 April 1985, the hearing will adjourn on that date and resume on Tuesday, 22 April 1985.
3. The procedure to be followed at the hearing is as outlined in the Board's letter dated 10 January 1985, a copy of which was forwarded to all parties of record. In particular:

- (a) The order of appearances, the order for calling of evidence and the submission of closing argument shall be dealt with by the Board at the outset of the proceedings.
 - (b) In light of the Board's decision of 13 July 1984, that a new panel be constituted for the purpose of hearing Interprovincial's proposal, it will be necessary to restart the hearing stage of these proceedings as opposed to simply continuing with the inquiry suspended on 28 September 1983. Accordingly, the rescheduled hearing shall be conducted pursuant to Board Order No. MH-1-83 and those items contained in the pre-filed list of exhibits and submitted prior to 16 August 1983, the date upon which the previous panel commenced its deliberations, shall continue to form part of the record, while any and all material coming before the Board on or subsequent to that date, will only be included if resubmitted at the reconvened hearing.
 - (c) Rulings made by the former panel shall be excluded from the record of the reconvened hearing.
4. Parties wishing to obtain copies of the Board's Reasons for Decision of 13 July 1984, a list of the exhibits referred to in paragraph 3(6) and Hearing Order MH-1-83 should contact the Secretary of the Board.

DATED at the City of Ottawa, in the Province of Ontario, this 24th day of January, 1985.

NATIONAL ENERGY BOARD

G. Yorke Slader
Secretary

Appendix V

ORDER NO. AO-2-MH-1-83

IN THE MATTER OF the National Energy Board Act and the Regulations thereunder; and

IN THE MATTER OF Order No. XO-1-83 issued to Interprovincial Pipe Line Limited, pursuant to section 49 of the National Energy Board Act, and

IN THE MATTER OF a hearing pursuant to subsections 17(1) and 20(3) of the National Energy Board Act, filed with the Board under File No. 1755-J1-43.

B E F O R E the Board on Monday the 18th day of February 1985.

WHEREAS the National Energy Board by Order No. AO-1-MH-1-83 dated 24 January 1985 set down a public hearing to commence at the Holiday Inn in Burlington, Ontario on 26 March 1985.

AND WHEREAS because of other hearing commitments it now appears to the Board that it will not be possible to commence the hearing on the date set out in Board Order AO-1-MH-1-83.

IT IS ORDERED THAT:

Paragraphs 1 and 2 of Order No. AO-1-MH-1-83 be revoked and replaced with the following:

1. A public hearing shall commence at the Holiday Inn in Burlington, Ontario, at 9:30 a.m., 23 April 1985 to receive the submissions of Interprovincial and interested parties on the matter of the location of the truck and rail loading facilities.

AND IT IS FURTHER ORDERED THAT:

Order No. AO-1-MH-1-83 be amended by adding thereto immediately following paragraph 4 thereof the following:

5. Should Interprovincial wish to file any revisions to the material already filed in this matter or any additional material, including written direct evidence, it shall by 22 March 1985 file 30 copies with the Board and serve one copy on each interested party.
6. Any interested parties who wish to file any revisions to the material already filed in this matter or any additional material, including written direct evidence, shall by 5 April 1985 file 30 copies with the Board and serve one copy on Interprovincial and one copy on each interested party.
7. Any interested party referred to in paragraph 6 who finds the filing and service of the documents referred to in paragraph 6 an undue burden may apply to the Board for relief from that requirement.
8. Unless the Board otherwise directs, the procedures for this hearing shall be governed by the Draft NEB Rules of Practice and Procedure dated 18 February 1985.

NATIONAL ENERGY BOARD

G. Yorke Slader
Secretary

Appendix VI

ORDER NO. AO-3-MH-1-83

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder; and

IN THE MATTER OF Order No. XO-1-83 issued to Interprovincial Pipe Line Limited, pursuant to section 49 of the National Energy Board Act, and

IN THE MATTER OF a hearing pursuant to subsections 17(1) and 20(3) of the National Energy Board Act, filed with the Board under File No. 1755-J1-43.

B E F O R E the Board on Tuesday, the 26th day of March 1985.

WHEREAS the National Energy Board by a memorandum to all parties dated 26 March 1985 has advised parties that the date by which interested parties must file any revisions to the material filed in this matter or any additional material is to be extended from 5 April 1985 to 12 April 1985;

IT IS ORDERED THAT Paragraph 6 of Board Order AO-2-MH-1-83 be deleted and the following substituted therefor:

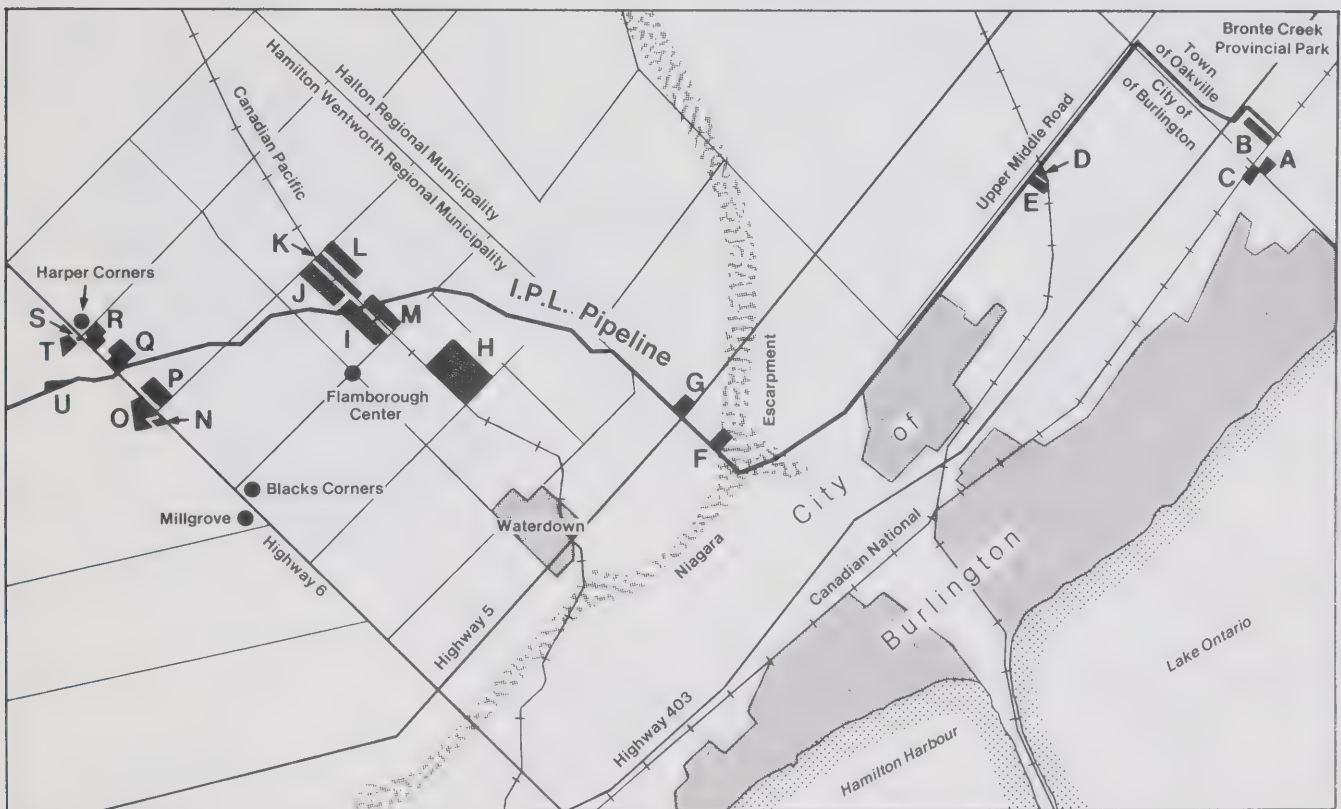
"6. Any interested parties who wish to file any revisions to the material already filed in this matter or any additional material, including written direct evidence, shall by 12 April 1985 file 30 copies with the Board and serve one copy on Interprovincial and one copy on each interested party."

NATIONAL ENERGY BOARD

G. Yorke Slader
Secretary

Appendix VII

Alternative Facility Locations Considered by Interprovincial in the Towns of Oakville and Flamborough, and the City of Burlington



Proposed Combined Facility Locations - Sites A, B, C, D, E, H, I, J, K, L, M

Proposed Truck Facility Locations - Sites F, G, N, O, P, Q, R, S, T, U,

Note:

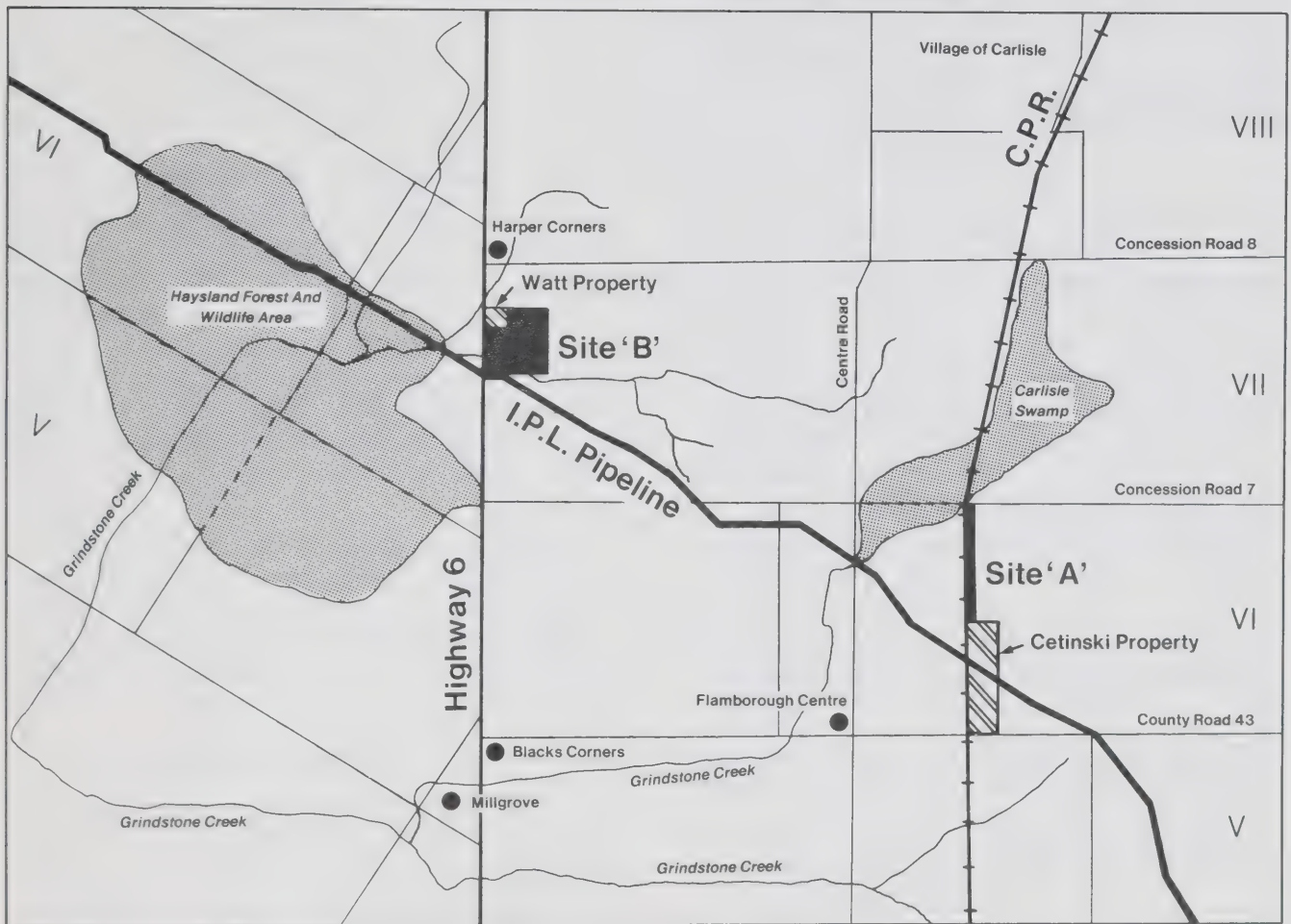
Site M - Cetinski property - original application

Site K - Rail facility location - amended application

Site Q - Truck facility location - amended application

Appendix VIII

Proposed Locations of Propane Facilities Approved Under Order No. XO-1-83 Town of Flamborough Regional Municipality of Hamilton-Wentworth



Note:

- Site A - originally identified as Site K on Appendix VII
- Site B - originally identified as Site Q on Appendix VII
- Cetinski property - originally identified as Site M on Appendix VII.

**Section 5 of
Environmental Information Report
Propane Facilities, Interprovincial Pipe Line Ltd.**

**Flamborough Township
Regional Municipality of Hamilton-Wentworth,
Ontario**

**Ecoplans Ltd.
Waterloo, Ontario
3 August 1983**

5.0 Recommended Actions - Mitigation

Interprovincial Pipe Lines Ltd. proposes to construct two propane transfer facilities at two sites in the Township of Flamborough. The previous sections have described the environmental resources of the two sites and the environmental impacts associated with construction at these sites. It is assumed that an environmental management programme will be integrated in the detailed site design procedure and into the construction and operational phases of the facility.

It is beyond the scope of this assessment to provide a detailed description of the protective or mitigate measures to be implemented during and following construction. However the following recommendations will assist in the development of the environmental management package.

5.1 General Recommendations

It is recommended that during construction Interprovincial Pipe Lines Limited have a qualified inspector on site to observe and advise on the actions of the contractor, to monitor the effects of construction on the environment and to ensure environmental management procedures are observed.

5.2 Site Specific

5.2.1 Railway Site 1

Five mitigative measures are proposed:

- (i) keep construction activities more than 10 metres from hedgerows,

- (ii) replace a vegetative screen between the homeowner on Cons. Road 7 and the access road,
- (iii) plant a visual screen (hedgerow) consisting of a triple row of hardwoods (Ash, Oak, Basswood, Maple with Aspen as a nurse crop) along the northerly border of the site, 10 metres wide,
- (iv) salvage topsoil in the construction zone for use elsewhere on site, and
- (v) ensure environmental inspection on the site during construction to protect principally hedgerows and woodland areas.

5.2.2 Truck Terminal Site 2

The mitigative measures appropriate for this site are as follows:

- (i) grubbing the site should entail removal of any organic soils, either to a local landscape contractor for sale if suitable, or to a landfill site for disposal,
- (ii) all woody vegetation to be removed should be sold for firewood (or sawlogs) and cleared from the site. Other woody material should be removed to a suitable disposal site,
- (iii) topsoil should be stockpiled outside the pipeline connection easement if it crosses productive hayland,
- (iv) no tree planting in the meadows is needed on the site as natural plant succession will be sufficient,
- (v) a rock face on the 3 to 1 slope around the terminal site will reduce possible forest fire hazard and require lower maintenance,
- (vi) until natural plant succession covers the open meadow areas the hay should be cut and removed to reduce fire hazard. The entrance road will provide a fireback; its verges should be mown to further reduce fire hazard.
- (vii) culverts should be placed at one or two points along the entrance road (other than at Highway 6) to permit water to flow toward the ditch unimpeded during periods of heavy discharge, and

(viii) ensure environmental inspection on the site during construction to protect wooded areas,

reduce soil erosion, ensure removal of organic soils and woody material, and monitor rehabilitation.

**Ruling of the Board
on Safety and Operation of
Interprovincial Pipe Line Limited's
Main Pipeline System**

As this hearing has progressed, the Board has become increasingly concerned with the extent to which various matters, including operations and safety related to the main pipeline system of IPL have become subjects for examination.

The Board has up to this point preferred to be flexible respecting those subjects which may be introduced, but considers the stage has been reached in the proceedings where a ruling is required.

This hearing as constituted by Board Order MH-1-83, is to review the appropriateness of Sites A and B.

The Board has already approved the conversion of Line No. 8 to propane service, and the question of the operation and safety of Line No. 8 is not before us at this time.

The Board agrees that safety is a relevant consideration in the selection of sites for the truck and rail loading facilities. The safety procedures and systems for the facilities can be viewed separately from the pipeline.

The Board notes that IPL is proposing to install equipment which will physically isolate all the loading facilities at both sites, including the feeder lines, from the main pipeline.

Having considered all these matters the Board will not permit questioning on issues which relate to IPL's pipeline system as such.

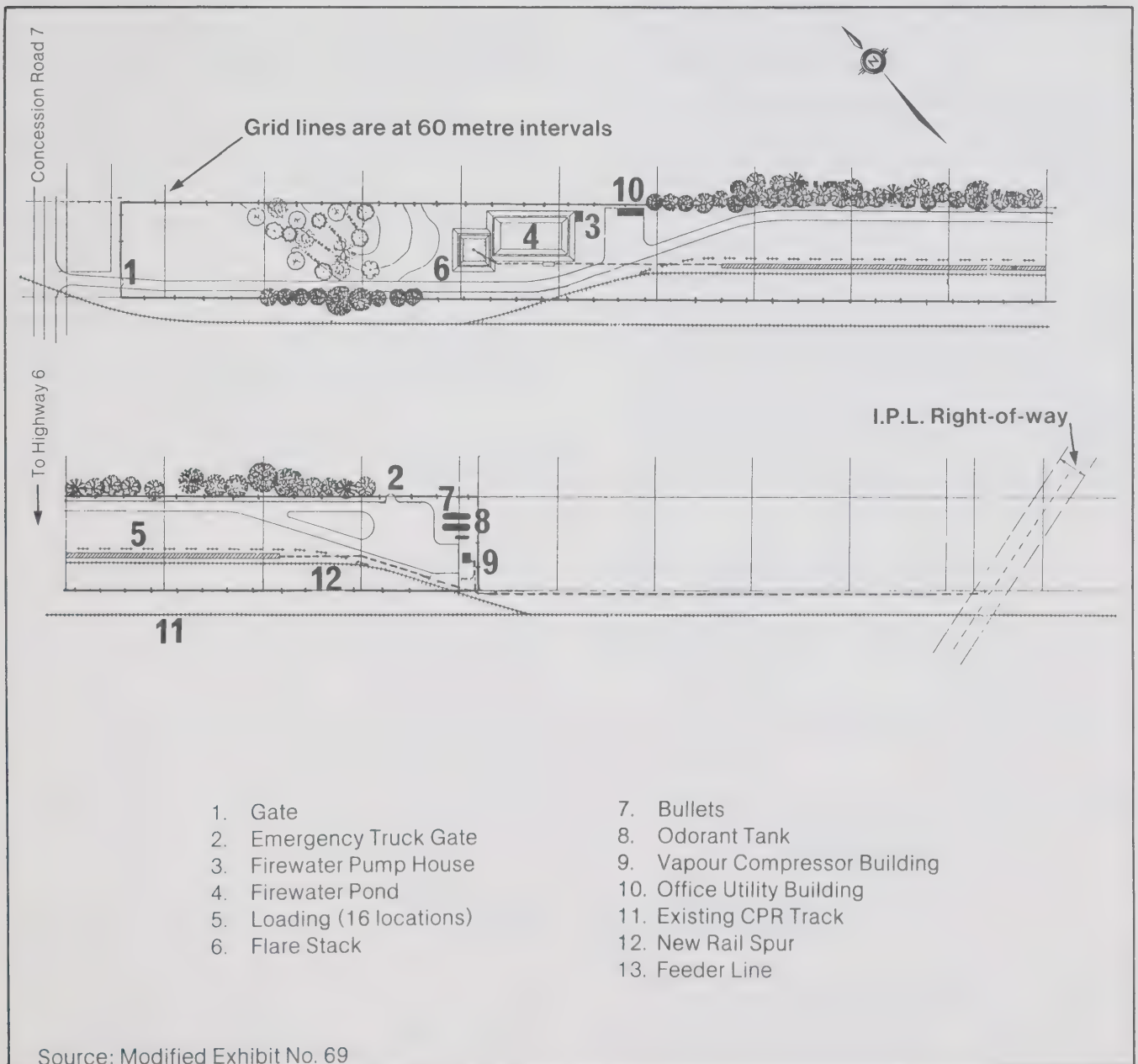
In the light of this decision the Board is of the view that a ruling respecting Mr. Brown's objection of yesterday is no longer required. That is our ruling on this matter of procedure.

Reference: MH-1-83, Volume 8, Friday May 3, 1985
Transcript Reference 1707 to 1709



Appendix XII

Westover Propane Terminal Rail Car Loading Area Plot Plan



ORDER NO. AO-2-XO-1-83

IN THE MATTER OF the National Energy Board Act ("the Act") and the Regulations made thereunder ("the Regulations"), and

IN THE MATTER OF Order No. XO-1-83 as amended, issued to Interprovincial Pipe Line Limited ("Interprovincial"), pursuant to section 49 of the Act; and

IN THE MATTER OF a public hearing pursuant to subsections 17(1) and 20(3) of the Act, filed with the Board under File No. 1755-J1-43.

B E F O R E the Board on Wednesday the 18th day of, December 1985.

WHEREAS the Board issued Order No. XO-1-83, dated 4 May 1983, exempting an application by Interprovincial from the provisions of paragraph 26(1)(a), subsection 26(2) and sections 27, 28 and 29 of the Act, upon certain conditions;

AND WHEREAS local authorities and landowners in the Township of Flamborough, Ontario, expressed concerns about the proposed location of truck and rail loading facilities;

AND WHEREAS the Board, pursuant to subsections 17(1) and 20(3) of the Act, decided to hold a public hearing for the purpose of reviewing that portion of the Board's 4 May 1983 decision approving the location of the propane loading facilities;

AND WHEREAS the Board issued Order No. AO-1-XO-1-83, dated 30 April 1984 amending condition 3 of Order No. XO-1-83, requiring the modifications, construction and installation of the facilities to be completed on or before a date to be fixed by the Board at the conclusion of the public hearing;

AND WHEREAS the Board has decided to confirm the exemptions granted by Order No. XO-1-83, as amended, subject to the amendment to the conditions imposed by this order;

IT IS ORDERED THAT Order No. XO-1-83, as amended, dated 4 May 1983, be further amended as follows:

1. Conditions 3, 4(b), and 5 are revoked.

2. The following conditions shall be added to Order No. XO-1-83:

GENERAL

6. The pipeline facilities to be constructed pursuant to this Order shall be the property of and shall be operated by Interprovincial.

7. Interprovincial shall, unless otherwise authorized or ordered by the Board, implement or cause to be implemented all the policies, practices and procedures as adduced in its evidence before the Board, and those detailed in the further submissions as set out by this Order.

8. Interprovincial shall, within two months of the issuance of this Order, or on such later date as may be set by the Board, submit for the approval of the Board a schedule for the filing of those programs, practices, plans and procedures it undertook to carry out or develop, including those required by these conditions, and shall proceed to submit the material in accordance with the approved schedule, unless otherwise authorized by the Board.

PRIOR TO, DURING AND AFTER CONSTRUCTION

9. Interprovincial shall, prior to, during and after construction:

(a) monitor the water supply in those wells, currently in use, within 300 metres of the truck site; and

(b) submit, to the Board, the results of that well monitoring program six months after leave-to-open has been granted.

PRIOR TO COMMENCEMENT OF CONSTRUCTION

10. Interprovincial shall, prior to commencement of construction, expand the area of the truck site to include that section of Lot 13, Concession 7, formerly in the Township of East Flamborough County of Wentworth, now in the Town of Flambo-

rough, Regional Municipality of Hamilton-Wentworth presently owned by Mr. and Mrs. Watt. Subsequent to leave-to-open, that site shall not be used for residential purposes.

11. Interprovincial shall, prior to commencement of construction, develop and submit for the approval of the Board, an environmental management program, which shall include for the design, construction and operation phases:
 - (a) its policy and procedures for environmental protection; and
 - (b) the frequency and timing of environmental inspections.

PRIOR TO LEAVE-TO-OPEN

12. Further to the requirements of Part VII of the Oil Pipeline Regulations (SOR/78-746), Interprovincial shall, prior to leave-to-open being granted, submit for the approval of the Board an operations manual which shall include sections dealing with the following:
 - (a) the special problems of operating, maintaining and repairing this propane system and these terminal sites;
 - (b) on-site security;
 - (c) restriction of ignition sources at both terminal site;
 - (d) vehicle access;
 - (e) gas detection systems;
 - (f) fire detection systems;
 - (g) loading requirements;
 - (h) the use of gas detectors to check unstenched loads prior to leaving the sites;
 - (i) fire fighting systems including ponds, mains, hydrants, monitors, and deluge systems;
 - (j) computer controls;
 - (k) hardware controls;
 - (l) manual controls;
 - (m) operator response to each type of alarm; and
 - (n) system response to each type of alarm.
13. Interprovincial shall, prior to leave-to-open being granted, submit for the approval of the Board, a propane emergency response manual including, but not limited to, the following:
 - (a) a statement of the scope of application of the emergency procedures information;

- (b) a detailed description of the facilities to which the procedures apply, including the location of and access to the facilities involved;
 - (c) the normal operating conditions such as pressure and flow rate;
 - (d) the procedures for the documentation of emergencies;
 - (e) the instructions and warnings to be given to persons reporting an emergency;
 - (f) an outline of the initial action to be followed upon discovery of an emergency;
 - (g) the names and telephone numbers of Interprovincial personnel or departments to be contacted in the case of an emergency and their respective responsibilities;
 - (h) the names and telephone numbers of the public services and other agencies that may have to be contacted in case of an emergency;
 - (i) a detailed description of the plans together with all relevant information for cooperation with the appropriate public agencies during any emergency situation;
 - (j) a description of the types and locations of available emergency equipment, including a description of the types and locations of portable emergency shut-off devices;
 - (k) the procedures to be followed at the scene of the emergency by Interprovincial employees and others;
 - (l) the safety precautions to be followed during an emergency including:
 - (i) the handling of the propane and mercaptan,
 - (ii) the site isolation and shut-down procedures, and
 - (iii) the procedures for monitoring the hazard levels at the sites;
 - (m) a propane spill contingency plan for product release from the pipeline and related facilities including procedures for the detection and dispersion of propane during each season of the year;
 - (n) contingency plans for the immediate protection of the environment; and
 - (o) the evacuation procedures to be followed.
14. Interprovincial shall, prior to leave-to-open being granted, submit for the approval of the Board:

- (a) a training program for on-site staff; and
 - (b) a schedule of the training program, showing provisions for periodic retraining.
15. Interprovincial shall, prior to leave-to-open being granted:
- (a) develop and submit for the approval of the Board a noise monitoring program for those residences situated within 200 metres of the rail facility; and
 - (b) submit the results of that noise monitoring program six months after leave-to-open has been granted.

DURING OPERATIONS

16. Interprovincial shall, during the operational stage, submit for approval of the Board any modifications to the staff training program and the schedule for training referred to in condition 14 of this Order.
17. Interprovincial shall ensure that both sites are manned, during operational hours, by its person-

nel who are trained in the handling and hazards of propane.

18. Further to Condition 11, Interprovincial shall, within the first year of operation, submit to the Board a post-construction environmental report describing the effectiveness of the procedures of the environmental protection program.

IT IS FURTHER ORDERED that Interprovincial shall cause the modification, construction and installation of the facilities, herein referred to, to be completed on or before the 1st day of June 1987, unless upon application by the Applicant, a later date is fixed by the Board.

NATIONAL ENERGY BOARD

J.S. Klenavic
Secretary

